

NRDC cuts cash as profits fall

by John Riley
THE information technology industry can expect less cash from the government-backed National Research Development Corporation (NRDC) next year. That was chief executive Brian Willott's message at the release of the corporation's annual report last week.

Storm clouds are gathering over the organisation, which is part of the British Technology Group. A sharp drop in profits was reported, lower revenues are forecast for next year, and there is uncertainty about how new governmental policy guidelines for the NRDC will be implemented.

But industry leaders rejected Willott's warning that venture capitalists might not be ready to step into the breach, if the NRDC is drastically curtailed.

Logica chairman Philip Hughes said: "The NRDC fulfilled an important function in the '60s and '70s, but these days people tend to look elsewhere. The City has dramatically changed its view of software in the past two years and now thinks it a most attractive investment."

The net surplus after tax for 1982-83 was £960,000, compared with £5.02 million last year. This year £17.18 million had to be written off due to investments that failed to get off the ground, compared with £9.75 million last year. According to Willott, about one third of the investments had been in the information technology sector, with Compeda a major money loser.

Although income from patents was up £1 million to £25.19 million, Willott forecast future revenue from that source to drop by £7-10 million because certain lucrative medical patents owned by the NRDC would expire this year.

The NRDC has been told by the government that it must become self-sufficient, must focus on technology transfer, and is to lose its first refusal rights on exploiting inventions arising from Research Council and government generated research.

Willott expected that the NRDC would not finance information technology projects and ideas as heavily as in the past. "The IT area is a fashionable one, which promotes a lot of interest from the private sector, so it is easier to raise cash for IT. For a time we won't need to be as active in investing in this area, although we are not pulling back from IT," he said.

Of the IT projects that it does fund, it is likely that the main emphasis will be software-oriented schemes.

"Software companies find it difficult to get funding because banks like companies to have tangible assets," said David James, of NRDC's small companies' division.

The NRDC spent a total of £11.83 million on projects last year.



WILLOTT... "The IT area is a fashionable one."

Fears of leak are quashed

by George Black
THE British Technology Group (BTG) and its chip-making offshoot Immos moved quickly this week to quash fears that sensitive technology could have leaked from them to the Soviet bloc.

One of the men involved in the case of selling defence secrets to the Poles, William Huggle, undertook consultancy work for the BTG's predecessor, the National Enterprise Board, in 1978-9.

But a BTG spokesman said: "His consultancy was not concerned with the Immos project or with other aspects of the semiconductor industry. Anything Huggle learnt in that time would be out-of-date now anyway."

And Immos backed up that view: "We have never had a business relationship of any kind at any time," with Dr Huggle.

Suggestions that Huggle may have discovered the secret of Immos' "chip of the future" in a transistor were also dismissed. The transistor inventor Ian Barron did not recall having met Huggle.

Unions escalate action

by Nuala Moran
TELECOMS unions stepped up their campaign on Monday against government plans to sell BT to the private sector. This was in the wake of the failure by Mercury to get a court injunction against the POBU to stop the union blocking the connection of Mercury to BT's network.

The British Telecom Union Committee claimed that plans to sell shares to BT to foreigners are a threat to national security because of BT's vital interest to top secret defence projects.

The Department of Trade and Industry said it had no comment to make on BTUC's allegation, but pointed out that the final decision has not been made on selling BT shares abroad. The committee stage of the Telecom Bill resumed in Parliament this week.

Industrial action by the Post Office Engineers Union (POEU) was stepped up last week but some heat was taken out of the situation on Monday when BT decided to delay sacking 19 engineers for refusing to cross picket lines until it knows the outcome of the POEU's national conference on November 7.

The POEU has called out all its members at Columbo House in London, the exchange which serves Whitehall and Buckingham Palace. Last Friday operators at the exchange supported them with a 24-hour strike.

The operators are members of the Union of Communications Workers (UCW), which says it will be calling further "guerilla" strikes to support the POEU. The two unions met on Tuesday to discuss tactics.

POEU members who work on international lines were called out of two telx buildings in London when it became obvious that telx was being used by firms to get round delays caused to international telephone calls by union action in three international exchanges.

There are now around 2,200 POEU members off work. About 400 have been called out on strike and the rest "locked out" for refusing to sign pledges to work normally. A £1 per week levy of the POEU's 130,000 members will be in again on Friday.

A spokesman for BT said that "as far as BT is concerned the situation is that services are as normal."

Mercury, the private telecommunications company, did not get the injunction it was seeking against the POEU to stop the union blocking the connection of Mercury to BT's network.

Sandy Skinner, Mercury's marketing communications manager, said that Mercury was "very disappointed" with the result. Mercury is now considering whether or not to appeal.



CROOK... New boss.

and BT appoints a chief

by George Black
BRITISH Telecom has gone outside to find a chief for its commercial offshoot, BT Enterprises. It is to appoint Colin Crook, pioneer of micro networking.

Crook, until recently boss of Zynar, takes up the post of managing director next month.

The appointment comes at a time when BT's shortage of managers with commercial experience has been casting doubt on its ability to cope after privatisation.

Board member Michael B. told the Institute of Personnel Management conference at Harrogate that chairman Sir George Jefferson was the only BT man to manage a business of significance.

Crook will therefore be a vital asset to Jefferson in his bid to make BT a viable private sector company. He made his name as director of MPU Operations at Motorola in charge of the advanced computer systems project that led to the 68000 chip.

Honeywell joins Nippon in top-end mainframe deal

by John Kavanagh
HONEYWELL has teamed up with Nippon Electric in a deal which will give the US firm a new top-end mainframe designed and built in Japan.

At the same time, the companies are working together to produce a successor, and a similar agreement is being negotiated between NEC and the French manufacturer, CII-Honeywell Bull.

The deal gives Honeywell distribution and manufacturing rights to NEC's S-1000, which is 40% more powerful than Honeywell's biggest machine, the DRS 86. Honeywell has no immediate plans to take up the manufacturing rights.

This agreement is a reversal of contracts between the two companies which date back to 1962 and which expired at the end of last year. Those agreements gave NEC the right to build Honeywell machines.

"As a result of our close contact our systems are similar but not identical," Honeywell said. "We are now working to integrate the NEC S-1000 with Honeywell's GCS-8 operating system. We expect to have it running by the second half of 1985."

The US firm said the S-1000 would not take it into new markets but was aimed at its existing customers.

"We are not under pressure from users to provide a bigger machine but the S-1000 does give them another system to grow to," the company said.

NEC expects to sell over 150 large systems worldwide through

AT&T gets profit drop shock

by Philip Hunter
AMERICAN Telephone and Telegraph, the world's largest company and the main US telecommunications firm, last week reported unexpectedly bad third quarter financial results. Profits slumped by 28% despite a 5.3% increase in turnover.

Chairman Charles Brown blamed the cost of preparing for the company's break up at the end of the year for the profit decline.

This charge would cover the writing of assets to cover the depreciation in the value of AT&T's telephone equipment, and meet further costs of reorganising the company as required by the 1982 settlement of the anti-trust case with the US government.

The company's turnover was up from \$16.6 billion in the 1982 third quarter to \$17.5 billion for the three months ending September 30, 1983, but profits fell to \$1.46 billion.

This means that IBM, which is likely to come increasingly into direct competition with a deregulated AT&T in the near few years, is now almost as profitable. IBM's third quarter profit was \$1.3 billion.

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Privacy Bill threatens IT policy

by George Black
THE government was warned last week that its legislation to control the use of computerised data could sabotage its efforts to boost the UK's information technology industry.

As Home Secretary Leon Brittan introduced the Police and Criminal Evidence Bill, which will establish the use of computer evidence, he was warned that the Data Protection Bill now before the House of Lords would discourage business use of computers.

Professor Brian Niblett, barrister and head of computer science at Swansea University, said in London last week that the Privacy Bill would drive many firms back to manual systems, exempt from its complex provisions.

His warning was endorsed by Dr Charles Oppenheim, chairman of the council of the Institute of Information Scientists, who said that the legislation could impede computerisation currently in progress.

The two were addressing a meeting of DP managers held by Dyez International Business Communications.

Chairman of the meeting John Myers said that amendments proposed by the House of Lords would not solve the problems.

"Virtually every business will have to register - it will be a massive job. The registrar won't have the resources to cope. And if you fail to register there are quite sweeping powers to prevent any firm from collecting information," said Myers.

The Bill as drafted is quite at odds with the government's declared policy of bringing in the new technology.

The only thing which was absolutely clear, he added, was that it would be a ban on lawyers and consultants advising private businesses on its implications.

The Bill, which returns to the Commons after its third reading in the Lords this week, is expected to gain the royal assent some time during 1984 - "an appropriate year for it to reach the statute book", according to Myers.

The Institute of Information Scientists (IIS) has sent a written submission to the government urging it to clarify the distinction between word processing and data processing functions. This is one of the amendments the Lords have been wrestling with.

Another attack, on different grounds, has come from the National Council for Civil Liberties. The NCCL argues that it will not protect public privacy as claimed, but will serve to undermine it.

French terrorists hit Sperry

by Jack Gies
A FRENCH terrorist group that makes a specialty of attacks on computer installations wrecked the offices of Sperry Univac in Toulouse, south-west France, in a fire raid, which the attackers linked with the American landings in Grenada.

"Reagan attacks Grenada," was scrawled by the arson squad in a message left at the building.

"Sperry, the multinational, is an accomplice," it finished. The signature was CLODO, French acronym for Committee for the Liberation and Hijacking of Computers, which has a long history of computer fires and bombings.

The fire at the Sperry building wrecked seven offices and an adjoining flat. All the rooms were unoccupied when the raiders arrived at 4.30am.

Sperry has already been the target of an attack which took place in 1979 on its Toulouse headquarters. Then the raiders left a message describing themselves as "the Communist Party's sharpshooters".

However, police believe the same gang of computer terrorists has organised the series of attacks on data processing firms in the Toulouse area and Paris over the past four years.

In January 1983 CLODO claimed authorship of a bomb attack on the French government's data processing centre near Toulouse.

Officials fear that CLODO may now cause widespread havoc, following the American intervention in the Caribbean, on a scale comparable to earlier waves of terror that have swept French computer centres.

Then, an IBM computer was wrecked in a Toulouse bank. Data processing centres operated by Philips Data Systems and CII-Honeywell Bull were also bombed, and a shop run by ICL was burned down by the terrorists.



TAYLOR... "Significant result for British software industry."

Staff back Logica in shares stampede

by John Riley
LOGICA was backed to the tune of £1.3 billion by its own staff last week in the biggest stampede for high technology shares for a long time.

City institutions and private investors flocked to buy shares and the share issue was oversubscribed nearly eight times.

The striking price for the 10,400,000 shares offered for tender was 220p - 80p more than the minimum price of 140p. Even at that price the issue was 2.9 times oversubscribed. Logica has raised £8.5 million from the sale, and dealings start on the Stock Exchange today.

"This is a very significant result for the British software industry," said Leo Taylor, Logica's managing director.

"We were particularly pleased that 650 of our staff bid over £1.3 million for shares in the company - now more than half of our staff have a stake in the company. The vote of confidence from this public is matched by an equal vote of confidence from our own staff."

Taylor said that there would be no dramatic change in the way the company was run: "We have always run ourselves along the lines of a public company and are used to having external institutional and staff shareholders."

Altogether 28,000 application forms were received, and only 6,300 were successful. In City terms, the flotation was an unqualified success. Peter Winkworth,

Action by BT unions hits five cities

INDUSTRIAL action by Post Office engineers to protest against the government's plans to privatise British Telecom spread to five cities on Monday. The POEU pulled out specialist staff in exchanges in Birmingham, Glasgow, Swansea, Liverpool and Manchester. About 43 members are taking part in Liverpool, 30 in Manchester and Birmingham, fewer than 10 in Glasgow and six in Swansea, in action designed to hit the electronic exchanges of big business customers.

BTG chairman

NEW chairman of the British Technology Group is Colin Barker, ex-finance director of the British Steel Corporation. Barker, aged 57, formerly with ICI, has to submit a corporate plan to Trade and Industry Secretary Norman Tebbit, following recent government statements that the BTG's "rescue" role was to be halted. Barker succeeds Sir Frederick Wood.

MCI finds UK

THE US long distance telecommunications carrier, MCI, is set up in Europe, with the IIR as base. The company is taking advantage of the deregulation of US giant AT & T and will have voice and data links across the Atlantic by the end of the year.

Junior is out

IBM LAUNCHED its low cost micro, the PCjr (junior) on Tuesday in the US. Two models are available and they will go on show in December with an entry level cost of \$669. Full production is scheduled to start immediately but no details of availability in the UK are being released. Further details on page 2.

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Cable sale tactics show the way for BT

by George Black

THE government has taken unusual steps to stop Cable and Wireless falling under foreign control when it sells "about half" of its remaining 45% in the booming telecommunications concern.

The tactic gives a pointer to how ministers may seek to keep British Telecom in British hands, despite their widely-publicised efforts to attract Japanese and American investors in buying slices of it next year.

The Treasury's Financial Secretary, John Moore, told the House of Commons: "The directors of Cable and Wireless are recommending to shareholders that they agree to issue the government with a special share."

This would enable the government, irrespective of the size of its own shareholding, to ensure the continuance of those provisions in the company's articles of association that limited the shareholdings of individuals and parties acting in concert to not more than 15% of the issued ordinary share capital.

The mechanism of the special share is clearly designed by the government to prevent stealthy predation by giant overseas corporations such as AT&T - but it could be applied equally in the case of British Telecom, thus defusing one of the objections by the engineering union, the POEU, to its privatisation.

Moore rejected the fears of

Labour's Peter Shore and Harry Ewing that Cable and Wireless might still not be safe from a foreign takeover.

The government's announcement is also a clear signal that it thinks the Hong Kong sovereignty issue is likely to reach a satisfactory solution. Any worsening of the dispute between Britain and China over the colony would cause the share issue to flop, as Cable and Wireless made over half its profits there last year.

In March this year, it committed itself further by spending £143 million on a 34.8% stake in the Hong Kong Telephone Company, a sister company of the vast Jardine Matheson trading group.

The sale is expected to take place during the financial year and could raise more than £250 million. The SDP spokesman Ian Wigglesworth, called it "selling the silver to pay the household bills".

From the government viewpoint, Cable and Wireless has proved the jewel in the crown of the privatisation strategy. Since it sold off 49% in November, Cable has turned in a pre-tax profit of £97.7 million in the year to March 1982 and £157 million in the year to March 1983. Both of these results were way beyond the most optimistic forecasts of the City.

Now the great unknown element in its future is the fate of Mercury, BT's private rival, of which BT owns one third.



HEYWOOD... "We're neutral about Uniplex and Xenix."

Unix alliance to attack US

by George Black

A NEW British partnership announced last week could challenge the Americans in the market for Unix software on micros, predicted to boom next year.

The deal is between newly-formed Aston Technology, set up by ex-Wicat manager Graham Gough to promote a low-priced 68000-chip machine, and the Redwood software house of St Albans, one of the first aboard the Unix bandwagon.

Aston is to adopt Redwood's complete applications suite with its Unix System 111 operating environment.

Aston's Crystal machine, assembled in this country, will use as many British products as possible, promised the firm's marketing communications manager Kim Jones. Aiming to undercut the IBM-PC and others, Aston is offering a wide choice of operating systems, including Pick and CP/M, but the addition of Redwood's Unix suite should strengthen its claims to be taken seriously.

Redwood and rival Precise were the two British front-runners in writing Unix programs. Redwood's Tony Heywood has planned with Pams Geller to leave Zilog and set up the Unix software publishing company Sphinx - but in the end he decided to start a business without using venture capital.

When Redwood completed its first system, the Uniplex microprocessor, Sphinx agreed to market it.

Now Heywood's team of 11 have assembled a range of products to go with Uniplex. This includes a relational database management system from a GBC subsidiary in Phoenix, Arizona, and a spreadsheet from Software Innovations of New Hampshire.

"We're neutral in the debate between Root and Logica as to whether Uniplex or Xenix is going to be the dominant form of Unix," commented Heywood. "It doesn't matter to us which is the eventual winner because we're providing systems suitable for all applications anywhere."

Aregon pioneer workstation goes on market

by John Kavanagh

AN OFFICE workstation which began life as an Open University project will be brought on to the market on November 17 by Argon International. Last week the Excom-100 Communications Centre won the company the British Computer Society award for the best application of computer technology.

The Excom-100 grew out of the Cyclops data processing and worddata terminal with light pen input. The Cyclops was developed at the Open University with £85,000 of British Telecom backing.

In 1981, Argon negotiated the marketing and manufacturing rights and built 25 Cyclops terminals for the university. They were

used as "electronic blackboards" for remote teaching.

Aregon has upgraded the product since then, putting in a Motorola 6809 processor and 256K of memory. The display offers a resolution of 640 bits by 480. External attachments include a graphics tablet and a cassette recorder but no discs.

Orders for Excom-100 before the launch have come from universities in Indonesia and from the Civil Aviation Authority, which is installing 35 in Prestwick air traffic control to display information such as weather maps and runway layouts. These terminals will be linked to an Argon IVS-3 worddata system.

There were three other winners of British Computer Society

awards. The social benefit award had two winners: the local authority consultancy Lamson won it for implementing a population census statistics package on 16 makes of computer for 158 national and local authorities.

The Scottish Poisons Information project won it for a worddata system based on Honeywell Inco equipment, which makes information about poisons readily available to doctors. Previously the 5,500 annual enquiries were handled manually.

The other winner was Systems Designers, which gained the technical achievement award for its Perspective project control software.

There were about 36 entries for the awards.

Peanut is limited to America

by Keith Holder

"THE newest, most affordable computer" is IBM's description of its long-awaited \$669 PCjr, the company's entrant in the low-cost computer stakes.

It has been launched in the US and Canada and will go on sale with 1,000 IBM dealers and product houses in December. There are no plans to bring it out in the UK yet and a spokesman said that although initial production had already started supplies would be limited at first.

Two models are available: a 64KByte system unit with keyboard which runs cartridge programs only and a 128 KByte version which uses cartridges or discettes.

Optional extras are a thermal printer, joysticks for games, an internal communications device which will allow other computers to link up with other computers through telephone networks.

Both machines are based on the same 16-bit chip the Intel 8088 used in the IBM PC.

The keyboard has 64 keys which may be programmed by the user to allow key commands and strings to be input by a single keystroke.

It uses an infra-red beam to connect with the computer, which can be up to 20 feet away, and a battery powered.

There are around a dozen programs available for the machine at the moment covering word processing and communications. A spokesman said that there were already about to expand the range and hundreds of the programs for the IBM PC would run on the PCjr.

CCTA attacked over high costs

by George Black

THE cost of writing software for the government is much too high, according to leaders of the UK's computing services industry.

Last week they forcibly made the point that the cost of preparing tenders for the government was "excessive" to John Winup, deputy director of the Treasury's official technology procurement body, the Central Computer and Telecommunications Agency (CCTA).

Winup pointed to recent concessions won by the CCTA for the services companies in getting government departments to put up part of the money for technical design studies. But he was told the CCTA needed to go much further to lift the huge burden of tendering for turnkey computer systems.

Chairman of the Computing Services Association's (CSA) turnkey group, John Cadge of Fraser Williams, said: "The cost of tendering for government busi-

ness is still much higher than it needs to be, much higher than it is in the commercial sector, and it leads to business where we must take much higher risks than we would elsewhere."

He likened the government's attitude to asking an architect to give a fixed price for a job without being told how many rooms were needed in the building.

"We're still being asked to commit at too early a stage, despite the CCTA's recent success at getting the costs of pilot studies shared with the end-user," said Cadge.

His message was strongly backed up by Peter Partington of Data Logic, who gave advice to delegates at the seminar on how to win business with the government.

The CSA is pressing the government to spend more with the service companies to match the policies pursued in the US, Japan and France.

"The volume of business is woefully inadequate. You can count

the number of turnkey jobs from the government in a year on two hands. We're getting further and further behind in implementing new technology," said Cadge.

Winup, in a lively panel discussion, replied that user departments were not prepared to fund technical design studies 100% because they saw them as part of the normal sales function. He admitted there were some shortcomings in the system, but argued that it had been improved.

But a number of voices at the seminar called for a more radical approach to the whole question of public sector computerisation, arguing that it was time for the government to start taking its own medicine.

The CSA is trying to convince the government that it is not getting the best systems for its own use at present, because bright ideas that come up during design are only taken into account if they make the programming cheaper.



CADGE... "Government tendering is still too high."

Team set up to beat smuggling

by George Black

A SPECIAL team of 12 has been set up in London to monitor high technology exports that could fall into the hands of the Eastern Bloc. The Customs and Excise department said its new investigation division would consolidate and intensify its commitments to Comcon, the NATO co-ordinating committee which controls sensitive trade affairs.

The government's strengthening of the anti-smuggling effort comes a week after links were revealed between a man charged in California of spying offences and the British National Enterprise Board (NEB). The man who faces information on US defence systems to Polish agents is said to have used an intermediary called William Hagle, who once did work for the NEB.

The NEB and its chip-making subsidiary Immos both quickly denied that Hagle could have had access to state-of-the-art secrets. But the decision to boost security seems deliberately aimed to quell possible criticism that the British government is lax about leaks.

UK firm launches rival to IBM PC

by Keith Holder

A UK company has launched a £400 rival to IBM's Personal Computer, and claims to have already taken 6,000 orders in Continental Europe. It will be on sale in the UK in January.

The IBM look-alike was designed by Advance Technology of London, and is already in volume production. Ferranti is producing the machine for Advance at its Oldham factory. In addition, Ferranti is giving financial guarantees to help the initial sales drive.

The low price tag "is to show people how over-priced personal computers are," said Advance's managing director, Jack Dangoor. "The manufacturers are really taking people for a ride," he said.

Dangoor claims the machine will run virtually all IBM and third-party software designed for the PC, and is 40% faster. Called the Advance 86 "A", it uses the same form of Basic as the IBM machine, and is compatible with IBM peripherals, including the 370 mainframe link, according to Dangoor.

It is based on the Ferranti 8086 16 bit chip, and features 64 Kbytes of ROM, 256 Kbytes of RAM, 16 colour graphics and speakers. A second "B" version is available with 768 Kbytes of RAM, two floppy disc drives and the ability to run Wordstar and Supercalc.

"B" version costs £1,200, and the basic £400 model may be upgraded for the exact difference in price between the two.

"I don't want to penalise people who come in at the bottom end," explained Dangoor.

The machine is the first attempt by Dangoor to design a computer, though he admits that he had some help from Ferranti. The project took just 18 months from start to production.

Continental distributors got a headstart on sales because they "jumped the gun," according to Dangoor. They showed advance examples at exhibitions before the official release date, and the response was "overwhelming" said Dangoor.

Production is currently running at 2,500 per month, though plans are in progress to double this.

IBM talks with French

by Jack Gee

IBM and France's state-owned Compagnie Generale d'Electricite (CGE) have revealed that they are holding preliminary talks which could lead to joint manufacturing and marketing ventures in data processing, telecommunications and other high technology areas.

IBM, whose subsidiary IBM-France already makes up the biggest profits and turnover in the French computer industry, could now look forward to extending its markets in France and elsewhere.

But they fit into the pattern already set by the world's leading telecommunications and computer groups which are joining forces in readiness to devise the next generation of telephone switching systems in which data processing will play an increasing role.

IBM earlier this year called off an arrangement with Mitel for development of the Canadian firm's X-2000 PABX. Then the company bought a minority interest in California-based Romm, one of the world's biggest PABX makers.

CGE, which has recently acquired what amounts to a monopoly role in the manufacture of digital time division telephone exchanges in France, could hope to

boost its sales in parts of the world where IBM is strongly installed. Through its subsidiary Cit-Alcatel, CGE is selling switching systems to 33 countries and controls 30% of the international market.

IBM and CGE executives stress that the talks now under way are only a starting point and are not fully-fledged negotiations.

CGE's CIT-Alcatel offshoot is looking for foreign partners in telecommunications ventures following the parent firm's exchange of assets with Thomson-Brandt, France's biggest electronics group.

CIT-Alcatel has teamed up with Philips in mobile radio and has got a French government go-ahead to build electronic typewriters - with the possibility of moving on to full-scale office automation systems with Italy's Olivetti.

The talks between IBM and CGE could mean a serious challenge to American Telephone and Telegraph Co., and Philips which have formed a joint telecommunications venture. It could also undermine the potential of an alliance between Olivetti and CGE. More serious still for French industry, it could leave the ailing, state-controlled Bull group, the biggest in France, in dangerous isolation.

Wang picks its words

WANG Laboratories has picked up the worldwide electronic publishing rights to some major reference books through a merger with Dictionix. The Concise Oxford English Dictionary and Roger's Thesaurus are among the standard

reference texts which will now be linked in with Wang's office automation software.

The merger is between Dictionix and a wholly-owned Wang subsidiary, Wang Electronic Publishing Inc.

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Law will protect immigrant data

by our Parliamentary

Correspondent

THE House of Lords has wasted no time getting back into the report stage of the Data Protection Bill after the long summer recess. The Bill's opponents have at last won one major concession, with Home Office Under-Secretary Lord Elton confirming that data concerning immigrants would be protected.

The controversial proposed exemption for data held for immigration control is to be taken out of Clause 28, Elton said.

Data held for the purpose of prevention of crime, however, would still be exempt from protection, Elton added. But if this was not the case, the data would now be subject to the full rigours of the Bill as a result of government amendments, in the same way as data held for personnel manage-



ment. Labour peers welcomed this belated decision to remove a blot on the Bill. The Opposition was less successful in its attack on other parts of the Bill, with Elton sparing in his concessions. Elton did, however, move a

government amendment to tighten up on the subsidiary use of data held for payroll and accounting purposes. He made it clear that there would be an obligation to ensure that the data was not used for purposes other than payroll accounting, preparing statistics, or certain categories of research.

Elton resisted further attempts, prompted by Lord Digby, to provide a data protection advisory committee to advise the Home Secretary on enforcement of the Act.

Elton also repelled demands for codes of practice to be written into the Bill. He was reluctant to admit that the government had really been wrong to try and exclude immigration data from protection. It was not racially discriminatory to do so, he insisted, because it applied equally to all people.

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Union slams the Thatcher method

by John Riley
A UNION report published last week slams the government's high technology policies for lack of direction, insufficient government-funded R & D and shortage of scientists.

The report, published by ASTMS (the Association of Scientific, Technical and Managerial Staffs), follows the government's rejection this summer of the House of Lords Select Committee's report on engineering research and development, which called for a national strategy for innovation.

The main argument is that the government wants industry to set the pace for innovation and come up with the necessary cash, while the union wants a government-fostered collective research programme somewhat along Japanese lines.

"Only industry has the intimate and detailed knowledge of the

markets and opportunities and can take the decisions needed," was the government's answer to the call for a national strategy for innovation in the House of Lords.

"The government has a collection of policies but no strategy," reports ASTMS in its report. "Decisions about R & D cannot simply be left to industry alone. The present extent of government funding, the influence of government as a major purchaser of technology, and its essential role in backing up any international developments quite simply makes a nonsense of the government's present attitude."

The union calls for the creation of a "separate Ministry for Science and Technology" to develop a strategy. It also wants more public money for research and development which it believes should come from the defence R & D budget. It also wants the government to use its role as a purchaser to "assist the diffusion process of new technologies".

It demands more scientific training, particularly in the technological universities, and accountability for the public support it considers necessary.

"The government is leaving us to slump into a slow decline," said ASTMS national officer Tim Welch. "The private sector manufacturers won't take any initiative without guidelines from the government. Defence is the main drain on engineering R & D, and more cash for industry should come from the defence budget."

The Madocks Report (to the National Economic Development Office earlier this year) showed that there is little spin-off from defence R & D into the commercial sector, and Michael Heseltine half recognised that when he announced recently that small com-



WEBB... "The government is leaving us to slump."

panies could shift for useful ideas in MoD programmes.

The report, the first of several, is designed to illustrate a constructive concern by the union for the future of Britain's high technology industries. Len Wells president of the union, hit out at unions being "unfairly associated with negative attitudes towards the development of the British economy."

Wells adds: "We are able to show that not only has Britain failed to invest in research and development but that we have failed to develop a strategy to use properly our existing resources."

The Leading Edge - an appraisal of Research and Development in UK Engineering, price £1. ASTMS, 79 Camden Road, London NW1 9ES.

SALES BRIEF

Marconi sells BT routing equipment

MARCONI Communication Systems is supplying British Telecom with routing equipment worth £3.5 million following joint development between the two organisations. The contract involves the supply of 55 Ace systems and two control centres to enable BT to monitor digital leased lines in the KiloStream service from National Control Centres.

Measuring flow

THAMES Water Authority has judged a £120,000 contract with Automation and Technical Services of Hayward Heath, Sussex, for a system to monitor the flow of water in a tunnel under the Thames. The equipment will also allow remote control of pumps, and includes a message distribution system.

Gas buys Amdahl

BRITISH Gas has taken its third Amdahl mainframe, this time a 4 Mbyte 5860 worth about £1.8 million. The machine replaces a 470V8 model to cope with the growing regional teleprocessing network. By 1986 there will be 2,000 terminals hooked on.

STC supplies

BRITISH Telecom has chosen STC to supply a batch of transmultiplexers, which enable digital transmission equipment to work alongside the existing analogue network. STC is supplying 12 transmultiplexers, which will be used by BT to provide alternative routing on international calls transmitted via satellite.

Testing space

COMPUTER Technology, which heads the UK challenge in the market for fault resilient hardware, is to supply computer based testing equipment for use in the development of terminals for the European Space Agency. The contract, worth over £100,000, was signed with the Milan-based Labon organisation, which is involved in all major ESA projects. The contract involves development of high speed links to enable satellite data to be processed in real time.

Energy at Home

HOME Automation has ordered a Nixdorf 8870 computer to handle accounting and production control as it extends its business from lighting control systems into energy management. Customers for the company's energy saving systems include Lloyd's Bank, Renault and the Adlon National Building Society.

Tobacco network

IMPERIAL Tobacco is linking up nine of its UK offices with network controllers and software from STC Business Systems, in a £200,000 contract.

Protel boosts

PROTEL Computer Systems, UK supplier of computer-based support products for the television industry, has boosted its US business with a £700,000 order. The company has set up a new subsidiary in New Jersey to provide technical support for its products in the US.

Swedes beat UK in teletex race

by Donald Kennett
SWEDISH-owned terminal supplier Ericsson Information Systems has beaten the UK government-sponsored teletex promotion initiative by becoming the first company to get a teletex terminal approved for attachment to British Telecom's networks.

As late as last month, a Department of Trade and Industry newsletter proclaimed that subsidised, half-price teletex equipment would become available on October 1 from four UK manufacturers - Ferranti, GEC, Plessey and Standard Telephones & Cables. But despite having been shown or pre-launched at exhibitions throughout the year, none of the UK-made systems has yet been approved.

Meanwhile, Ericsson's Eritex 10 terminal gained BT approval last week after being checked against the 125 items on BT's list of requirements. Requirements include

being able to print all 309 characters in the international teletex character set, and notifying the user of any unsuccessful attempt to deliver a message.

Market development manager Martin Hunt said: "We won't be marketing the Eritex 10 heavily initially, because we don't think there'll be an enormous market for teletex until the telex interface arrives in the middle of next year."

Alterations might have to be made to systems on the market after they have tried working together," he added. "Incompatibilities will emerge as we go along," he said. "We hope they will all bed down by the time the telex conversion facility is installed. Then the market will really open up, because you will be able to reach all the telexes in the world."

"Teletex is undoubtedly a big market. My belief is that it will become a standard in relation to

text transmission, both within and between organisations. Initially we'll be looking for pilot installations in large companies that want to use it internally."

"Telex has a tremendous reputation for being able to send reliable messages, including money transfers. Teletex has to obtain the same reputation. There are plans somewhere to integrate it with Group 4 facsimile to send signatures, logos and graphics, but there are no standards yet."

Ericsson has been selling teletex terminals in Scandinavia and West Germany for two years. The Eritex 10 is based on the company's electronic daisywheel typewriter, which has won 9% of the UK market. Managing director John Bunce said that in the two years since it was set up, the UK division of Ericsson Information Systems had boosted its turnover to £20 million.



BUNCE... "Next year turnover could reach £33 million."

Paradyne charges for fraud

by Howard Karten
THE case of Paradyne, which started some months ago with government accusations of fraud by the company, refuses to die a seemingly death.

In the latest installment, Paradyne recently charged staff members of the Securities and Exchange Commission (SEC) with fraud, trickery and deceit for their actions in pressing the suit.

The Florida manufacturer of communications hardware, in response to SEC suits against it, charged that SEC members had fabricated evidence, divulged company confidential information to competitors and attempted to coerce SEC staff members.

Nor is this the only source of problems for embattled Paradyne. The company recently repudiated its third quarter earnings at four cents a share, compared with earnings of 32 cents a share for the comparable period last year.

Those earnings are on net income of \$804,000 for the third quarter this year, as against earnings of \$7,041,000 for the same time last year.

Personnel project gets £1/2m

by George Black
NEARLY £1/2 million is being invested in a project to develop a micro-based personnel management system which will rival several established systems currently running on mainframes and minis.

The money is coming from the Trade and Industry Department's software products scheme, the British Technology Group, and Barclay's Bank, to fund a research and development project headed by two ex-Bank Xerox men. They are former UK financial controller Richard Coon and information services manager Geoff Lancashire, who with John Angel, a solicitor specialising in employment law, has set up a new software company in London.

Called Percom, it aims to bring its system to the market early next year with the aid of a programming team of eight. The program is designed to run on the most popular 16-bit microcs, the IBM-PC and Sinbus, but is also configured for any machine operating the standard micro operating systems CP/M, CP/M 86 and MS-DOS. Angel said it would be suitable for any firm of over 150 employees and that the first modules to be completed were already in use by a number of nationalised industries and large British companies.

"We hope we'll be leading the field, because we don't see many rivals in the micro market with personnel management systems," said Angel.



GLYNN... "We're getting out of smokestacks."

American Can goes soft on Pick

by Claire Gooding
THE Pick operating system has arrived on IBM mainframes and is providing the launchpad for American Can UK's new software business. At Comdex last week, American Can announced that its new subsidiary, Trifid Software, would be selling manufacturing software based on the Pick system.

In addition, Pick Computer Works has released its long-awaited implementation of the system for IBM's 4300 mainframes. This opens up a much larger market for American Can UK's new division, which is selling its Trifid package at medium to large-scale industrial and commercial businesses.

American Can UK is spending £7 million in an effort to diversify from its traditional base of manufacturing cans and packaging into such areas as insurance. About £1/2 million is going towards Trifid, which heads AC's push into the services industry.

"We are not 100% in smokestacks any more," said chairman

Maurice Glynn. "We've been given carte blanche from the president of American Can in the US, William Woodside, to spend whatever it takes to get this product to market quickly."

"We have an enormous amount of experience in manufacturing, and we know what efficient data processing can do for a company. There has to be a change in the attitude of management - the manager has to believe in the value of real time computing. Our biggest single message is, stop playing around with administration of your business, and start managing," said Glynn.

The Trifid package is aimed at getting manufacturing systems out of batch mode and into the hands of users, so that managers control their own data interactively. Trifid chose the Pick operating system, and the software built on top of it by Systems Management Inc because of its user-friendly facilities.

"We've taken school-leavers off the streets and within three days they know exactly what they're doing," said Glynn.

Arbat pulls out of DEC authorised scheme

by John Kavanagh
ONE of Digital Equipment's 12 authorised computer distributors in the UK has pulled out of the official scheme - just as the two sides were making peace in a long-running dispute over competition in the user market.

Arbat, formerly a UK firm but taken over this year by Control Data, says it sees no benefit in the "authorised" tag. The company will still get hardware discounts because it is staying an official DEC OEM.

Last month, DEC announced incentives to encourage its sales force to work with the authorised distributors to win over orders, not against them. This was described as a major concession by distributors, who had threatened to go to other suppliers if DEC continued to compete with its outside.

At the same time, DEC urged the distributors to go for specialised markets rather than sell general systems such as accounting packages. But Arbat - the most specialised of all the distributors - is now leaving the official scheme.

"We see no advantage for Arbat in being an authorised distributor," said Harris. "We are in a very specific market so we don't need help with promotion or use of the DEC logo, which the scheme provides. And we can get the same discounts as an OEM."

Harris said there had been no quarrel with DEC and no pressure from Control Data, despite the fact that the US firm partly owns Systems - which builds systems using DEC processor boards. Arbat would continue to buy all its processors and peripherals from DEC, he said.

Other authorised distributors disagreed with Arbat's move. "I can only see advantages in the scheme," said Paul Heron, a director of Coulson Heron Associates.

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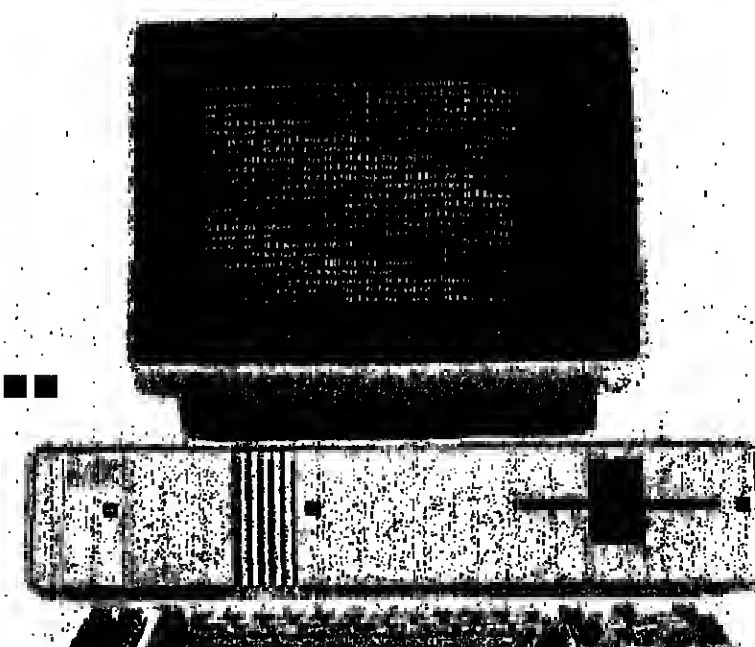


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Scicon is switching messages

by Donald Kennett

SCICON, the computer services subsidiary of BP, has developed a standard message switch for operators of large and complex networks.

The system, the TD (text and data) Exchange, was launched last week at Telecom 83 in Geneva, following a two-year joint development with a major Swiss customer, the Bernese-based facilities management and network services company, Radio Suisse.

The product takes Scicon out of turnkey project development, while still enabling it to serve the large systems market.

One of the major advantages claimed for the system is its ability to combine data links between computers and terminals with the telex and telegraph lines traditionally used for text message traffic.

"That's why we call it a text and data exchange rather than a message switch," said message switching division manager Penny Jackson.

Scicon has been in message switching for 14 years, selling systems purpose-designed to users' requirements. Customers included Cable & Wireless in Jamaica and the European Broadcasting Union. But the last turnkey sale - to DuPont de Nemours - was made five years ago and the company realised that custom systems were becoming uneconomical to build.

Two years ago Radio Suisse put out a tender for a system to support the latest generation of its Datacare private network and facilities management service. Scicon was chosen from 12 international companies, and Bernese-based



JACKSON... "That's why we call it a text and data exchange."

Radio Suisse became a partner in the development of the exchange. On launch, its first installation is already working, and a second system installed at Caterpillar in Geneva.

Further orders worth more than £300,000 have been won, including three more for Radio Suisse - which will replace earlier systems based on Sperry equipment - and one to support an enlarged network at DuPont.

Scicon's deputy chief executive, Paul Pearson, now expects sales to build up to a system a month by the end of next year, contributing

Council gives free use of viewdata

by Nuala Moran

ROCHFORD Council in Essex is the first UK local authority to use viewdata to provide information free to the local community. Called C-View, the system is based on the council's ICL ME29 computer.

It was set up with £30,000 provided by the Manpower Services Commission.

The technology is similar to British Telecom's Prestel, but it uses ICL's Bulletin software. Television sets to access C-View will be put in 10 public places in Rochford, such as sports centres and council office reception areas.

Essex radio will have a set in its foyer as part of its action desk and anybody with a viewdata TV set or a micro with a viewdata adaptor

and a telephone will be able to access C-View on Southend-on-Sea (0702) 546373.

C-View is also compatible with cable TV, so it could be linked to every home on a cable TV network. The council is looking at expanding C-View to take in electronic fund transfer, electronic mail, shopping by TV, educational programs and games.

Other councils in Essex have shown an interest in C-View. Dave Symonds, deputy director of computer services at Rochford, said: "Other local authorities in the area have asked if they could use the system. I think that C-View could soon grow to take in the whole of Essex."

When the system first goes up it will have about 2,000 pages of in-

formation. These will include details of leisure, local business, council activities, education, farming, welfare, social amenities and jobs on offer the Rochford Southend-on-Sea Job Centres.

Symonds thinks local authorities sports centres will be very important as for displaying jobs information. "The important thing is the browsing facility. As well as jobs we will display youth training opportunities and careers advice information for people still in school."

Information was assembled by the council. It is producing a directory of over 700 subject headings.

It is also looking at the possibility of charging commercial information providers and at selling advertising.

Wang donates to charity

by Philip Hunter

WANG dealer ADS Computers has donated hardware worth £26,500 to one of its clients, the Charities Aid Foundation. The equipment, including a Wang VS 8021 computer, will be used to build a database of the UK's 100,000 active charities, and the foundation is paying ADS to write software to handle the information retrieval.

The system will enable donors to identify quickly the type of charity they want to sponsor, says the foundation's head of information services, John Bennett. It will

also speed the production of the foundation's directories listing all UK charities in particular categories, such as those that help stray cats in need.

The foundation is already a computer user, with a Honeywell Level 6 mini to process the accounts of the 12,000 donors it serves.

The interest accruing from donations, which totalled £21 million last year, funds the foundation. Big corporate donors such as Marks & Spencer, have an account with it, which allocates the money as and when the donor wishes.

Money also comes from one of the UK's 2,500 charitable trusts, which are served by the foundation in the same way as other donors. The trusts donate the interest from their capital, which may be held in stocks or shares.

Bennett points out that the foundation only handles a small proportion of the UK's charities, but given the number of charities, such as public schools with charity status, total donations of about £8 billion last year in the UK.

ICL lays off 200 staff in New York

ICL has laid off 200 staff at its DRS 20 assembly plant at Utica, New York. "Sales are not adequate to maintain employment at the level we had," said an ICL spokesman last week. "We've been overmanned there." The final stages of assembly of DRS 20s not destined for the US or Canadian market is likely to be transferred from Utica to Letchworth in the UK.

Diery promoted

IAN Diery, managing director of Wang UK, has been promoted to vice president for Western Europe, and will be responsible for Scandinavia, France, Italy, Ireland and Israel, as well as the UK. Since he became managing director UK in March 1981, Wang's UK turnover has increased from £21.1 million to £30.8 million.

Gould's system

GOULD Computer Systems, the American supermini maker, is the latest to take on Logica's Rapport relational database management system. Gould's customers will be able to use the software with RASQL, a query language similar to IBM's SQL. The agreement follows parallel ones with Prime, Dats General and British Olivetti. More are on the way, says Logica. Rapport is already used on Gould hardware by Philips, British Gas and the European Space Agency.

Maestro rights

GERMAN software house Sofrab is extending its marketing agreement with Philips Business Systems for the Maestro development system. Philips is to get the exclusive European marketing rights to the product until the end of 1987.

Maestro is one of the most comprehensive program development and office automation tools on the market and has been the main vehicle for Philips' £700,000 minicomputer. Four Phase Systems in the US recently announced Sofrab's distributorship, and under the new agreement, Philips is to keep a grip on its UK and European rights to the product.

DEC releases

DIGITAL Research is pushing further into the business world with a source code translator which puts programs into Commercial Basic or CBASIC, and a high-performance version of the CP/M-86 operating system. CP/M-86 Plus is designed to supply an upgrade path for single users to Digital Research's Concurrent CP/M. The MCBasic translator converts code from Microsoft's MBASIC and Digital Research's Personal Basic into Commercial Basic, considered to be more efficient for business.

DEC encourages micro shoppers

by Nuala Moran

COMPANIES are being encouraged to set up in-house micro shops in a scheme launched by Digital Equipment last week. The first of these shops is at BP's headquarters in London, and DEC is talking to more than a dozen other firms in the UK.

BP set up its microshop to make sure it does not end up with too many different micros in its offices. Chris Kent, microshop manager said: "The aim is to provide managers with an easy route for acquiring micros."

Four micros are available in the BP shop: DEC, IBM, Hewlett-Packard and Wang. These models were selected with an eye on future local area networks. Kent said: "BP already has a range of mainframes and minis which was the starting point in deciding which micros to stock. These four

manufacturers met the criterion of compatibility with the existing installed base. This makes it easier to dovetail systems together and link them to central databases."

The company already has 300 micros and word processors at its headquarters in the City, and about 100 of these have been installed since the microshop opened at the end of June. It is expected that by 1986 there will be 2,000 micros at the headquarters alone.

Kent explained how the microshop works. "We've not got internal procedures sorted out so we can do ordering in advance. The aim is to provide off-the-shelf service. In other words we're working very much as a dealer would. And although we have a more limited customer base we are closer to them."

Managers who are interested in

getting a micro call to the shop where they should see demonstrations and get advice on choice of equipment. The shop also arranges for equipment to be installed and serviced.

"If they are interested in more than one or two micros, we get them to think about office systems generally because there might be long term implications," said Kent. For example, BP is looking at local area networks at the moment. "BP is likely to have a series of LANs for its individual business streams," said Kent.

DEC intends to offer three levels of support to in-house shops according to how many micros a firm buys. At level one, it will just provide advice, or level two training and joint promotion, and at level three, all services and support. The shops are expected to carry software.



BP's head office in London - site of the first new Digital microshop.

Felixstowe is first with shipping network

by John Riley

FELIXSTOWE is to be the first UK port to set up a computer network to allow port authorities and shipping agents to keep track of consignments passing through it.

The first phase, to go live on December 9, will link shipping agents directly to Customs. Although Customs departments in several British ports already have British Telecom data entry processing systems (Deps) linked to the National Data Processing Centre's computers at Harmondsworth, customs officers currently have to enter the cargo data supplied by the agents.

From December 9 customs officials at Felixstowe will not need to enter such data themselves, and procedures will be speeded up with agents entering the data directly from terminals in their offices into the Deps system. Over 150 agents are expected to join the scheme and most will have interactive micro-based terminals.

The second phase of the Honeywell-based network will come into operation in July next year. This will comprise an in-

teractive online system containing up-to-date details of a consignments' passage through the port.

The £1 million network, which is controlled by twin Honeywell DPS 696 super minicomputers, is based on British Telecom's Air Cargo Processing System (ACP 80), which keeps track of air cargo consignments at Heathrow and Gatwick airports.

The Felixstowe programme results from close collaboration between the port authority, Customs, and shipping agents, who have increasingly felt the need to streamline and rationalise their procedures in the face of rapid expansion of traffic.

"We have had frantic expansion," said port operations manager Robin MacLeod. "Cargo tonnage has doubled in four years and the administrative procedures were creaking."

Keith Herbert, chairman of the project's policy committee and a top Customs official, said: "The project reflects the enthusiasm of the trading community to get it going, and will give savings both on the trade and customs side."

Job-losers form workers' co-operative

by Claire Gooding

A GROUP of people who lost their jobs in the computer industry have set up their own workers' co-operative to sell microcomputer systems. Backed by money from Haringey Council, Heartwood Technology started selling systems in April this year, and is well on the way to making a "modest profit" from this year's trading.

The co-operative venture started when Terry O'Sullivan, one-time southern area sales manager for

Zenith Data Systems, lost his job in Zenith's re-organisation last year.

"I looked around and realised that there were several friends in a similar position: we put a lot of thought into it before we formed a co-operative."

Four men and three women are involved in the co-operative, which is run by a central committee of three, under O'Sullivan's management. The group approached Haringey Council and

asked for money under the council's job-creation scheme. Haringey gave Heartwood £1,000 towards set-up costs, plus an extra grant towards hardware.

The seven have all put their own money into the business, but whether their contributions are larger or small, all have an equal say in the company policy.

The company plans to move up-market in equipment with "supermicros" in the £2,000 plus range.

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Professional micro comes out of cold

by Claire Gooding

THE Professional microcomputer from Digital Equipment is coming out of the cold with a new operating system. The machine is now running a version of DEC's popular RT-11 operating system, called PRO/RT-11. This will enable it to run the myriad of applications written in DIBOL language which already exists throughout the DEC community.

The Professional has been limited to its native Professional Operating System (POS), which is only able to provide a runtime environment for applications developed on larger machines under the RSX-11+ operating system.

Industry observers have blamed POS for the Professional's somewhat isolated position in the marketplace and questioned DEC's choice of a non-portable operating system.

Now US systems house the Hammond Group has beaten DEC to supplying the gateway to DIBOL applications by implementing PRO/RT-11, released in the US two weeks ago. DEC's own version of RT-11 for the Professional is not expected until the middle of next year.

The rights to PRO/RT-11 in Europe and the UK have been snapped up by authorised DEC distributor Minicomputer Com-

mercial Software (MCS), which specialises in insurance systems for DEC kit.

"What we're doing is transferring DIBOL applications to run on the Professional," explained support and sales manager Philip Kirtan. "POS has been of negative value to the Professional - by utilising an existing operating system with a wealth of applications it becomes a more exciting product altogether."

PRO/RT-11 will allow the machine to fit into the DP environment far more easily, because it can link with another RT-11 host.

The applications can be developed on the Professional itself

or on the larger linked RT-11 machines, to run on either type. This means that the Professional released from its runtime-only status and can fit in with DP plans to integrate micros with mainframes and swap data between them.

"We realised the potential to send a guy out to look at it immediately," said Kirtan. "To our mind it makes the Professional an ideal entry-level machine for small companies."

The PRO/RT-11 operating system is being sold for £400 and end users, and will be available in OEMs holding an RT-11 license from DEC.

Aerospace is developing system for the Rapier

by John Riley

BRITISH Aerospace Dynamics Group announced last week that it is developing a new military computer system for the Rapier ground to air missile system.

The system, called the MC4700, stems from a Ministry of Defence contract awarded to British Aerospace in 1982 to develop a general purpose, single board, 16-bit microcomputer which meets military standard specifications.



British Aerospace is designing a system for the Rapier.

The MC 4700, which is also being supplied to Plessey and Marconi to run in their radar systems,

offers a dual serial (RS232/423) interface card, 64 Kbytes of volatile and non-volatile memory cards

and a bus service card which provides bus arbitration, real time clock and four Kbytes of non-volatile memory.

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23rd London
24th London
25th Cambridge

28th Birmingham
29th Manchester
30th York
December
1st Glasgow
2nd Aberdeen

Navy plans a plain sailing systems guide

by John Riley
THE Royal Navy is to spend £320,000 to make sure that sailors can use computer systems and software easily. It will draw up a set of guidelines so that human factors can be integrated into the design of large military systems.

Industry will be consulted and stands to gain from the four-year project which is getting underway at Loughborough University. The programme is headed by top Navy psychologist Arthur Gardner, who is on secondment to Loughborough's Human Sciences and Advanced Technology Group (Husat) from the Admiralty's Applied Psychology Unit at Teddington, Middlesex.

"It sounds a lot of money," said Gardner, "but that shows how seriously the Navy takes ergonomics. The Navy recognises that human factors cannot just be tagged on at the end of the production cycle, but have to be a facet of the design process from the start."

Gardner was a member of a Navy project to draw up guidelines for physical ergonomics of computer systems some years ago, and the current project aims to comple-

ment that. "The present study will concentrate on man software interactions and on total system issues," Gardner said.

The first two years will be devoted to producing guidelines of requirements, drawing on experience from industry, as well as British and foreign armed forces. The second phase will test the guidelines out in practice.

"The Navy recognises that human factors designers are in short supply, so we will also concurrently be designing training courses to ensure a steady supply of them in the future," added Gardner.

Husat was chosen because it has close links with the computer industry and has already conducted research into ergonomics.

Gardner took pains to point out, however, that this was not a research project. "We are just concerned with getting the best ideas and putting them down on paper."

The Navy initiated the programme because "it has been involved with attitudes of computerised systems and has the biggest human factors research groups of the Armed Forces", said Gardner.



TONES... Says the grant will enable him to deliver early.

Welsh firm wins grant for council automation

by George Black
A WELSH software firm has won a £413,000 grant to speed up development of programs to solve the problems of local authorities.

BMSL of Swansea has been given the grant under the National Computing Centre's software products scheme, for a 3½ year project to automate the functions of the cash-starved councils.

The scheme could serve to introduce more competition into an area traditionally dominated by ICL. Sperry is now talking to BMSL about migrating the software on its mainframes.

The government is keen in compliance with recent Common Market regulations on open tendering in the public sector. This could incidentally help it to make the cuts in local authority expenditure it so desperately needs to balance the books.

Until now ICL has had things much its own way, despite an attempt by Honeywell to gain a foothold using its own in-house software.

ICL's problems with software have so far not allowed its competitors to take business away from it. Sperry's entry into the field has been delayed by a joint scheme with ICL International to develop software which was eventually abandoned. Microdata (formerly known as CMC) has a number of local government installations.

BMSL, which looks as if it

could become a significant force, was set up by ex-ICL man Gwyn Jones three years ago and has just turned in its first annual income of over £1 million.

In August, 15% of its equity was bought by an investment subsidiary of British and Commonwealth Shipping for £250,000 to inject more cash into the programming operation. And Jones already has ambitious designs to take his firm on to the unlisted securities market in 12-18 months' time.

The impetus behind BMSL came from ICL's failure to solve the difficulties of administering the direct labour organisations of local councils, following reforming legislation by the then Environment Secretary, Michael Heseltine. BMSL began offering alternative solutions to ICL's on its own hardware, as well as Honeywell's Digico and IBM's.

Since then, the field of local authority computer applications has been rapidly widening, to include housing benefits which were shifted to local authorities from the DHSS, waiting lists, council mortgages, rates and rents, environmental health, electoral registers, and vehicle fleet management.

Jones says the NCC grant will enable the company to deliver all these systems in the autumn of March 1986 - a year earlier than requested.

Commodore is top

by George Black
COMMODORE has moved to the top in the international home computer market and will have pushed its share up to over 50% by the end of the year, according to the US West Coast business survey organisation, Dataquest.

Commodore, sometimes thought of as the least fashionable of the micro makers, has in fact improved its position since 1982 when it had only a 45% slice in terms of revenue. That income was generated from a notably lower percentage of units sold, indicating that Commodore was justified in its dramatic price-cutting exercise. The figures refer to machines priced below \$1,000.

"Commodore seems to be gaining and opening a gap," said a Dataquest spokesman in Cupertino, California. "Its nearest rival is Texas Instruments, but that is not doing nearly so well."

Texas's share is likely to drop from 26% to 20% by the end of the year and the number three in the league, Atari, will also see its slice cut down from 12%. Timex and Tandy were described by the Dataquest spokesman as "minor players" in the home computer section.

There are no surprises in the league, small business machines costing from \$1,000 to \$5,000. Dataquest predictably reports that IBM has pushed Apple out of the limelight this year.

The current field leader in the UK, ACT's Sirius, does not feature in the worldwide table.

IBM and Apple were neck-and-neck with about 27% of the market each in dollar terms at the end of 1982. Since then Apple has slipped slightly, as sales of Apple II and Apple III have been hit by the advance of the seemingly all-powerful IBM, which will have gained 34% by year-end.

Tandy has held steady at about 10%, while Hewlett-Packard is making steady progress from 9% to 9% in fourth place. Once last year's number four, the aging British Osborne.

Dataquest foresees continued expansion for the whole micro business in the next few years. The market for hardware priced at under \$1,000, this year valued at \$733 million, will grow to \$1.1 billion by 1987 - or from 1.8 million to 7.8 million units. The whole personal computer sector should hit \$20 billion in 1988.

Retailer makes world deal

by Philip Hunter
COMPUTERLAND, the world's biggest computer retailing group, has struck a worldwide \$50 million deal with the UK arm of Canadian Bytec to bring the Hyperion 16-bit portable micro into its product range.

Bytec will supply 1,000 IBM-compatible machines before the end of the year, and Computerland

says it expects to sell one Hyperion for every four IBM Personal Computers.

The European end of the deal was tied up by UK subsidiary Hyperion. "This brings us into a worldwide network of just the first of a series of marketing developments," says Bytec's managing director George MacFarlane.

TELECOMMUNICATIONS

Telecom 83, the four-yearly world telecommunications show, attracted 650 exhibitors. Donald Kennett reports

French lead the collaboration fad

FRENCH state-owned electronics giant CGE (Compagnie Generale d'Electricite) has started talks with UK companies through its CIT-Alcatel telecommunications subsidiary. It is looking for collaboration on second sourcing the French PTT with digital switching technology, while gaining access to new markets on the basis of reciprocity between countries.

The company is also talking to the Germans - the government would not want one alternative technology - but believes that the symbiosis between Siemens and the Bundespost will make agreement difficult, a company spokesman said.

The French industry minister recently called for European collaboration and reciprocal procurement in telecommunications, and the EEC Council of Ministers is considering plans for harmonising

European network development. The UK companies are GEC, Plessey and Racal. GEC and Plessey both make Syton X. Racal has no switching products, but has expressed a strong interest in the liberalised telecommunications environment and has formed partnerships with US companies to enter the cellular radio and cable television markets.

A growing number of collaborations of various kinds are being agreed between companies with complementary skills as traditional telecommunications markets are opened to outsiders and the pace of change heats up.

CGE and Thomson-CSF recently merged their telecommunications interests into one company so as to gain the size and the development resources they decided were necessary to face the still international competition coming from companies such as AT&T,

Philips, Siemens, LM Ericsson, Nippon Electric and Northern Telecom.

CGE has also had contact with IBM, although both companies say they are nowhere near an agreement (see page 3). IBM and British Telecom have also had talks believed to centre on network management, but which have yet to result in an official announcement.

The AT&T and Philips joint venture made its public debut at Telecom 83, reaffirming its plan to adapt AT&T's 5-ESS switch to international requirements, before going on to develop products locally for client countries.

Northern Telecom and Digital Equipment announced that they were continuing to work together on interface standards. A new agreement has been reached to enhance the X25 interface between DEC's VAX/VMS superminis and NT's SL-10 packet switch.



The Duke of Kent, who is vice chairman of the British Overseas Trade Board, toured the UK stand, where 60 companies were exhibiting with the support of the Board. He is seen here after being conducted round the exhibition by STC Telecommunications marketing director Richard Soper.

Nippon draws the crowds

NIPPON Electric drew large crowds as it demonstrated the progress it was making towards the dream of spoken language translation by machine.

NEC claims to have introduced the world's first connected speech recogniser in 1978.

The demonstration at Telecom 83 involved two speakers having a conversation in Japanese and English, and then in Spanish and English, with the machine doing the interpreting. The conversations took place at near-normal speaking speeds, but they involved limited vocabularies of only 150 words and speaker-dependent recognition techniques.

The equipment used included the DP-200 connected speech recogniser and recorded voice synthesiser, with the translation in between being carried out by dynamic programming routines running on an NEC AIC advanced personal computer.

The company has been using the DP-2000 for about two years in data entry, stock control and inspection applications.

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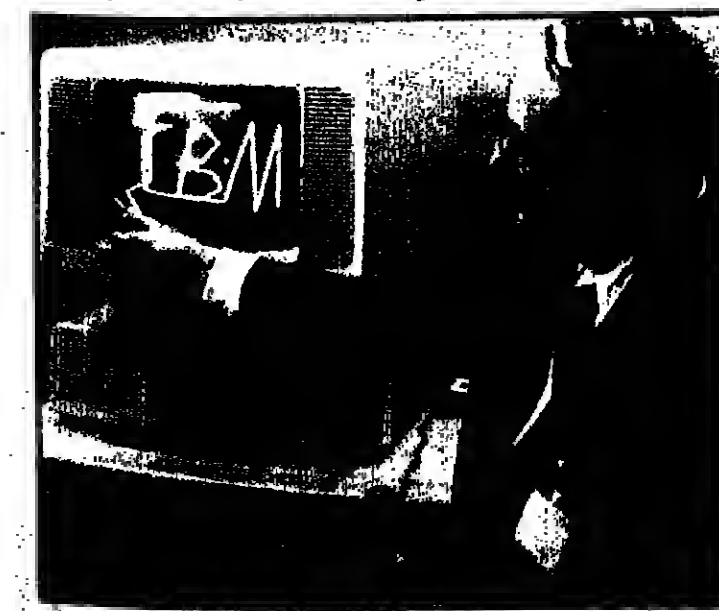
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IBM's "technology cube"

SOFTWARE FILE

South Africa offers project management system to UK

A PROJECT management system developed in South Africa is to be launched in this matter in competition with the highly successful Artemis from Metier.

The system belongs to Critical Path Planning Services, which has set up shop at Crawley in Sussex. The software was developed in South Africa by Dan Beattie and Alan Fleischmann and is used there by around 40 firms, including Unilever and the mining organisation, Anglo-American.

Like Artemis it runs on Hewlett-Packard hardware and there are no plans to adapt it to anything else.

The package draws on Beattie's experience with the engineering firm, Foster Wheeler, in Johannesburg, where he was senior planning engineer. He has come over to the UK to promote the system, leaving Fleischmann in South Africa to look after the bureau service there.

The field leader, Metier, has built a strong reputation, achieving revenue of \$37.5 million



BEATTIE... "Metier has had things too easy."

worldwide last year, with over 300 installations. But Beattie feels that Metier has had things too easy for lack of serious competition. He claims Critical Path Planning Services will be able to offer better software for very much less.

Users have had to choose between micro spreadsheets which just can't do the job or bells-and-whistles systems which are far too expensive, he argues. His next step will be to appoint European distributors.

Scanner edges on fifth generation

by Claire Gooding
FIFTH generation techniques have come closer to commercial reality with the launch of SDL's database scanner, TSIP.

TSIP is a multi-user, interactive information retrieval system, which can search huge databases at very high speed. Unlike ICL's CAFS retrieval system, it needs no extra hardware for pre-processing of queries. Instead it uses data-driven software - techniques akin to the "dataflow" methods used in fifth generation projects.

The TSIP system can retrieve text by sentence, paragraph, section, document or groups of documents, depending on what the user defines as a "record".

Like CAFS, TSIP does away with the need for clumsy indexes, and makes it possible to scan one database or several at extremely high speed. SDL quotes 1/2 Megabyte a second as standard search time for TSIP.

"It's a rapidly expanding market

and we see enormous possibilities," said Ian Trail, senior consultant in SDL's Government Systems Group. "At present the market has been suppressed by the fact that other products in the area are overpriced."

SDL is selling the system at present operational only on Digital Equipment's Vax miniframes.

Troil does not see CAFS as a direct competitor to TSIP. "CAFS is a DBMS accelerator, providing high performance on large databases. TSIP is really for more sophisticated and complex text retrieval jobs."

TSIP is selling for £9,500 - not cheap, says Trail, but considerably less than most products doing a similar job.

Colin Hebden, SDL's manager of R & D in the Government Systems Group, is cagey about the amount of time and money TSIP has used in development. "There are plans to capitalise on TSIP by

selling it at an OEM level.

Its speed is the main advantage offered by TSIP over the other retrieval programs. It achieves this by building a specific "foreign" search program out of each query, rather than using a general-purpose, and therefore slow, retrieval program.

"What it does is to take the query in real time and compile it into a machine-code search program," explained Hebden. "It generates an optimum search program and then reads the database off the disc using the program."

The data-driven approach means that the data itself "drives" the program, and in some cases TSIP can scan more database documents than the computer can execute instructions.

SDL's future plans for TSIP include implementation on an "on board" micro to provide a home-dependent database machine.

Comshare brings in foreign versions

US bureau Comshare is introducing its successful financial modelling programs into Europe in foreign language versions.

The move marks a significant departure from the traditional approach of English-language applications authors who, like tourists, have generally expected foreigners to make the effort of understanding them.

But Comshare has calculated that the French and German markets will form such an important area for expanding its business that it has commissioned translations by a small company from Haslemere in Surrey.

The translator is ST&R (Software Translation and Research) set up by Ray Todd, a former Comshare employee and previously with Peachtree and Cincom. He has put together a team of six and plans to expand that number to 20 by the middle of next year.

Comshare is his main client so far, but he says he is talking to several well-known names in the software industry. He is currently considering Spanish, Italian and Japanese versions.

Todd's first undertaking was a translation of Comshare's micro financial suites, Masterplan and Planner, which is now complete and due for launch. Now the company is working on French and German front-ends to the successful mainframe system, Wizard, which will be introduced on a modular basis from the beginning of 1984.

Wizard, which amounts to 300,000 lines of code, was written for Comshare by its British staff at Wakefield, Leicester and London

and has gained some 300 users in this country since February 1982. According to European marketing director James Cherrill, sales are now running at £1 million a quarter - but the rapidly maturing European market remains largely untapped.

Comshare believes the only way to make an impression on it is to meet it on its own terms.

Todd comments: "French versions have proved quite straightforward to do, but German has thrown up some unexpected problems. For instance, the need for two-line error messages is a case of one. And that can mean major changes."



TODD... Considering.

DEC bureau expands

by Claire Gooding
A FLEXIBLE distribution package is paving the way for Rolfe & Nolan to become a software supplier. Rolfe & Nolan, best known for its Digital Equipment-based bureau service, is taking the plunge into third-party software business with its sales order processing system.

The distribution package is based around Pioneer's Command software and uses a central database to supply central control over file maintenance and reports. This

makes the system easier to maintain, as well as making it possible to tailor it to individual requirements.

The modules available include sales order processing, a bill of materials processing, material requirements planning and contract costing. The system is available online and batch, and is available in a number of languages, including English, French, German, PDP-11, RSTS, CTS and Vax users.

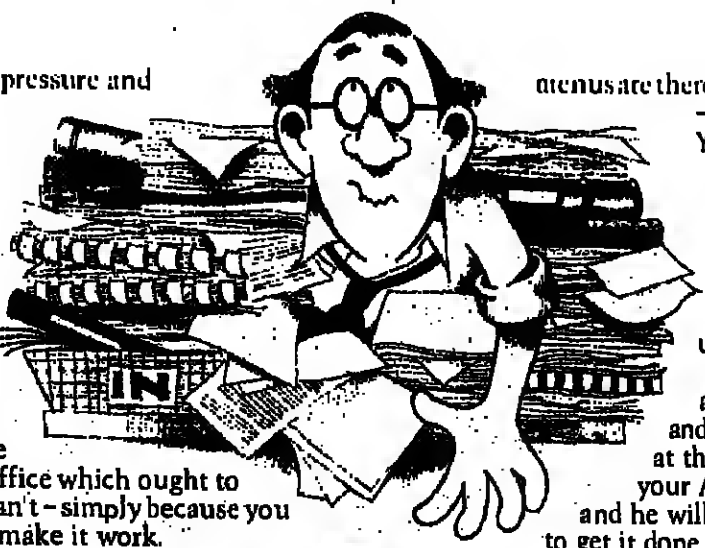
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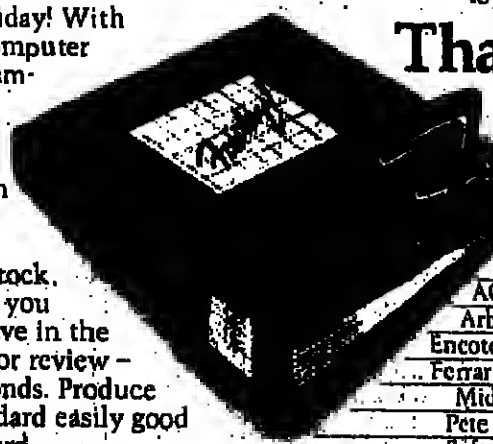
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But Friday isn't only fast and versatile. It's designed for people who have never used a computer before. Its documentation, described as a model for the software industry, includes an introduction to micro computing. Friday is completely menu driven, with lots of prompts to guide you through the job you are doing. The



as there are there purely to help you - not to hold you up. You can switch from job to job - just as you always have. Only now you don't have to turn your desk upside down. Invest half an hour with Friday and you will be amazed at the return. Just visit your Ashton-Tate dealer and he will demonstrate how to get it done by Friday.

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Digital Research has GSX Graphics. The other companies haven't.

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GSX is the Digital Research software engineering solution that takes the graphics implementation out of the language and puts it where it belongs, in the personal computer's operating system.

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All systems go
GSX is designed for integration into all Digital Research's own CP/M family of operating systems, including multitasking Concurrent CP/M where the possibilities for graphics enter a new dimension.

It is now also available for IBM's Personal Computer DOS and to the manufacturers of computers running under Microsoft's MS-DOS for similar in-system integration.

Within the last year, a growing number of major manufacturers have taken up the GSX option, a growing number of exciting

GSX based applications have been created and a growing number of end-users have been delighted to discover that there is an effective graphics choice for their machines at last.

And now, there is GSX Tool Kit, specifically designed to help application developers bring the power of graphics to their applications, quickly and easily, and to enable the distribution of GSX on the application disk itself.

The drive to win
Perhaps the most important aspect of GSX is its drive-anything ability. It presents an ANSI standard Virtual Device Interface to the program.

Plotters, matrix printers, laser printers and ink jet plotters by Hewlett Packard, Houston Instruments, Epson, Calcomp, Printronix and most other popular peripheral manufacturers, joysticks, mice, trackballs, digitisers. They can all be readily placed under GSX control.

And this is suddenly possible because that control comes from a graphics interface in the operating system itself, not from outside.

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The Microsoft alternative to all this has been to embed a device dependent graphics implementation in the language - the old GW-BASIC. That's doing the

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Simon Piel is European marketing director of SMS International.

Invite the users to the third party

IT'S time for third party maintenance companies to come into the limelight, drop their low profile, and start to make the industry aware of their existence.

Users must be told of the 25% cost savings over original manufacturers' maintenance charges and the freedom to install any mix of hardware they want on contracting the services of a third party maintenance company.

As important is that when a third party company takes over the responsibility of servicing an installation, it is primarily concerned with ensuring that the smooth operation of hardware, regardless of its source, continues without any hiccup.

To this end, preventive maintenance is higher on the third party company's list of priorities than remedial maintenance. The prime

Although commerce is increasingly aware, the public sector is slow to respond

objective is to provide users with optimum computing performance which in turn increases systems availability and response time.

Not for the third party maintenance company is much rubbing of hands when a machine fails, because it sees an opportunity to sell the user a more powerful piece of equipment. Maintenance is the key to its service and maintenance is what it supplies. And it has to be the best maintenance available. That is the business.

The computer industry is constantly promoting price and slash performance benefits of plug compatible hardware. Consequently, more and more companies have changed to PCM and mixed hardware installations.

But what happens when a machine fails, affecting a whole range of peripherals? Valuable time and money is lost tracking down each manufacturer and once that has been achieved there is no guarantee that engineers will arrive on site quickly, or indeed, have the required spare parts.

The third party maintenance company is a different proposition. One phone call and the entire problem is solved.

But don't think these engineers only respond to frantic calls for help after a catastrophe. The ser-



PROFILE

How to run a company and a marathon at once

NOT many company presidents would go for a five-mile run at the beginning of a busy European fact-finding visit, straight after a long transatlantic flight. Still fewer would do so at the age of 56.

But that was a short run for marathon runner Bob Wiggins, president and chief executive of Paradyne, the Florida-based data communications company. Only the quadrennial Telecom Show in Geneva kept him out of this year's New York marathon, which he has completed in under four hours. He compensated with a 20-mile run around London on that day.

by John Riley

Wiggins took advantage of the Telecom Show to bring senior members of his board over to Europe to help lay the foundations of Paradyne's future European strategy.

After spending 13 years in product development, sales and marketing with IBM, "there wasn't much there in the way of communications at the time" - Wiggins moved to the data communications company, GTE, where he ran a communications division.

He moved to Paradyne in 1974 as president and chief executive, a position he has held ever since. "When staff come along for promotion I tell them that I haven't had a promotion in nine years, and am still in the same job," he quips.

Wiggins turned the then ailing Paradyne round from losing \$3½ million a year to its current turnover of \$207 million and \$26.9 million net profit.

Wiggins wants to increase the amount of business Paradyne has outside the US to about 40% of the company's turnover. It is currently around 10%.

The company has been selling its IBM compatible communications devices around the world largely through distributors, and Wiggins now aims to sell more



directly, particularly to PTTs and multinational companies.

"We do give more than token support to international co-operation," he says, "and we will enter into partnerships to use good ideas we find abroad."

Paradyne has a special, long-standing relationship with the British data communications company, Case, whereby Case builds Paradyne circuit boards into its own equipment and Paradyne manufactures Case's DCX

switching multiplexers under licence in the US.

Paradyne also has a similar arrangement with the French company, Sen, with private packet switching networks.

Wiggins has managed to break into the Japanese market successfully. He started off using Nippon Electric as Paradyne's distributor, and helped Nippon develop its 9,600 hits/sec modem. Paradyne now sells direct to the Japanese PTT.

"People told us we wouldn't be able to sell diagnostic devices to the Japanese PTT, because the Japanese regard their lines as being so good that it would be impossible for us to tell them their lines might not be functioning properly. But we had no problems."

Wiggins regards Japan as a sound long term market. "You have to pay your dues for being there, but it is a good market to be in," he explains.

Wiggins sees the future of communications not only in terms of higher speed and better price performance, but also more built-in fault tolerance and redundancy. "Everybody wants it, but as long as you pay for it," he says. "In communications networks, redundancy is a vital part of the activity and the whole industry needs to concentrate in that area."

He wants to look more closely at Europe, because there is an expanding need among the multinational companies to expand their transnational data communication networks. That is why he is looking at products needed by the European market, and plans to expand software development to his European headquarters in Windsor to cater for the European market.

Although his sales pitch is aimed at larger companies, Wiggins welcomes every order that he can get, whatever its size. "No order is small," he says. "They are all great."

He points out that 70% of Paradyne's business is for its installed user base.

After his whistlestop inspection of Europe, Wiggins will be back in Florida in good time for the British American marathon at Tampa on November 20, which Paradyne helps to sponsor. "We had 72 teams of businessmen competing in it last year for the Corporation Cup and we raised \$13,000 for the local hospital."

And, of course, he intends to better that performance this year.

ComputerWeekly

Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS

Thursday, November 3, 1983

Software moment of truth comes

TWO seemingly unrelated events took place in the last week which give a clear indication of where the computer industry is going: the share issue of UK software house Logica was oversubscribed by nearly eight times; and Texas Instruments, the big US electronics company, pulled out of the home computer market.

Logica's success on the market came at a time which many commentators said was inopportune. They pointed to the lack of market interest in Acorn, the UK microcomputer manufacturer, which went public in September. The glamour of the high risk technology sector was wearing thin, they said.

The comparison of Logica and Acorn was never a valid one. But the software industry must be particularly pleased that one of their own has been given such a vote of confidence at a time when those producing the hardware have become suspect.

For a long while we have heard that the City does not understand the software industry. We have said as much in these pages. There is of course no proof that the City understands the business any better now, but at least it realises that it is a good place to put its money.

The contrast of Logica's success with Texas Instruments' withdrawal from the home computer market could not be more stark. The home computer market is a funny one, and in theory should not be of much concern to the business user. Yet there will be many business users who will see the failure of Texas Instruments, a big name in the industry, as further proof that the only way to play this game is safely: buy IBM.

The problem with the microcomputer industry is that there are too many companies selling equipment which is almost identical to its competitors. Most micros, designed around the same chips, have very little to distinguish themselves. Some micros are even making this sameness a virtue: look at the growth of the Apple and IBM PC "compatible" business.

The distinguishing factor between machines is the software. The statement has become something of a cliché in the past few years, but the differing fortunes of Logica and Texas Instruments indicate that the moment of truth has come.

Well done, ASTMS

GOVERNMENT and industry are regularly criticised for not directing sufficient attention to the social implications of information technology. The chip is bringing about a complete change in the organisation and structure of work at all levels, but little is being done about preparing for it.

Encouragingly, the Royal Navy and the trade union ASTMS (Association of Scientific, Technical and Managerial Staffs), attempted last week to change things for the better.

The role of unions in information technology has often been considered by some to be myopic and reactive rather than constructive. A recent Dutch government report on chip technology concluded that trade unions world-wide are not taking advantage of the opportunity to help shape the inevitable new organisational structure of industry. "It will probably be some time before unions adopt an anticipatory and active role in organisational and job matters," it concluded.

ASTMS would doubtless disagree with the Dutch government and in producing well-written and well-argued booklets with the aim of "seeing our manufacturing businesses succeed" it shows it means business. It has given a lead to others to examine the issues with equally well-thought-out and researched techniques.

Ergonomic factors have often been the concern of the unions, and the move by the Royal Navy to ensure that the human dimension is introduced into the design stage of systems software development is an important move.

It is time for the information technology industry, in particular the manufacturers and software developers, to play a more active role in these areas.

1984 and all that . . .

This week's example of the strange things people say about computers was sent in by G. D. Howat of Bristol, who wins £5. As usual you have 10 seconds to answer, not 10 minutes which the computer has written down on these little lines that I'm reading out now. I think the computer has been drinking. Robert Robinson, introducing the final of Britain's 1983.

LETTERS

Programmer retires after 20 years

MANY of your readers, as well as many friends and colleagues of Cliff Leak, will be interested to learn that he retired this month.

He has a work record which must surely be one of the most unusual in the computer industry, having started programming in April 1962 on an IBM 1401 and been programming professionally ever since - that is, over 20 years of full time programming, initially with Unilever and, from April 1970, with Fraser Williams.

As a programmer, his reputation for excellence and elegance is legion, having raised commercial programming to almost an art-form. He assisted younger programmers with patience and willingness to help, whilst his attitude to inept and incomplete systems and design work was equally well known.

All of this needs to be put in the context of his other attainments. Briefly put these are an Honours degree in Classics at Oxford 1947 following the award of an Open Scholarship. He passed the final

examinations of the Institute of Cost and Management Accountants in 1958, but didn't apply for membership.

He is fluent in German, French, Greek, Dutch and Italian, with some Russian. A country chess player, he once played 15 games blind-fold. He won 14, lost one. He is also a bridge player to a high standard.

He boxed for the army during his war service. And he is a pianist to a good level.

Cliff is now in his 60s, and he

was programming until the day he retired. For all his attainments, he was unambitious and enjoyed the continuing technical challenge of programming at a high level of competence.

We all wish him well in his retirement and, if any of his old friends or colleagues want to contact him, I will be pleased to forward any letters.

E. R. WILLIAMS
Joint Managing Director
Fraser Williams Group
Liverpool.

Comparing raw data rates is absurd

I OBSERVED with interest Dr. K. H. Benner's letter (*Computer Weekly*, October 20) in which he states that the inter-machine transfer rate over Keele's Cambridge Ring is only about 1.5 Kbytes per second.

It emphasises the absurdity of the common practice of comparing local area networks on their raw data rate. Our own local area network, Multilink, has a raw speed only one fortieth of that of the Cambridge Ring, but transfer rates of up to six times that reported at Keele are easily achievable.

The high speed of file transfer using Multilink is achieved because the protocols (including packet assembly, acknowledgement, etc) are handled in the node. All the sending and receiving devices have to do (once the connection has been made) is to move the stream of bytes across the interface to or from the node. If appropriate, this can be done by DMA so that the host CPU has no work to do at all.

This also gives the lie to the idea prevalent in the LAN industry that connectionless protocols, in which the sender has to divide the data stream into blocks, each of which includes full addressing information, are more efficient than those involving virtual circuits.

Multilink is firmly in the class of "micronets" and yet apparently outperforms some of the more "heavyweight" networks; surely performance criteria rather than raw speed should form the basis of informed comparisons of networks?

DR C. R. GRANT
Nine Tiles Computer Systems
Cambridge.

I REFER to an article by John Riley in the edition dated September 29. The article, on page three, was entitled "Nippon aims at a 10 mips chip".

In the article "mips" was quoted as meaning "machine instructions per second". I and my colleagues have always understood mips to mean "million instructions per second". This would make sense in the reference made to the V-60

which it is quoted, "will run at 1 mips with full CMOS".

Perhaps the journalist in question should take care when quoting such a specific detail as speed of operation.

JOSEPHINE SHAW
Managing Director
Teaching Aids
New Milton
Hampshire.

You are right, we were careless.



Powerscourt House

Don't be too envious of the setting

LEST your readers become too envious at the beautiful, pastoral setting for the National Microelectronics Research Centre, indicated by the photograph on page 31 of *Computer Weekly* (October 20), they should know that the photograph is not of Cork, as the caption states, but of the view from Powerscourt House, County Wicklow - 150 miles away!

Incidentally, why the bilingual title to the article itself I am sure you realise that "Eire" is the word in the Irish language for Ireland.

If the article had been about Spain, would the title have read "How España lured 250 electronic firms"?

JACK MORRISSEY
Dublin.
Ed's note: touched.

Thrill to the return of Database

I WONDERED if you and your readers thrilled, as I did, to the return of the TV show *Database*. I recall similar "in-depth" shows hosted by Mr Bastable concerning car maintenance - "change ashtrays", "this is the engine", etc.

It's gratifying to note that a similar tone is being adopted by *Database*, and I am confident that the image of computers and computing among the public will be enhanced enormously.

ALLAN BISSET
KNA Public Relations,
Alton,
Hampshire.

The Editor welcomes letters commenting on subjects published in *Computer Weekly*, or on original topics. All letters must be accompanied by the writer's name and address, not necessarily for publication. Letters may be cut.

was programming until the day he retired. For all his attainments, he was unambitious and enjoyed the continuing technical challenge of programming at a high level of competence.

We all wish him well in his retirement and, if any of his old friends or colleagues want to contact him, I will be pleased to forward any letters.

E. R. WILLIAMS
Joint Managing Director
Fraser Williams Group
Liverpool.

Trade marks in ads are irritating

I MUST agree with a Downmire remark by Chad of some weeks ago about the great irritation caused by the continual trade marks in ads. However, I feel obliged to point out that, in general, the advertisers themselves don't like them.

About two weeks after I placed an ad for a well-known color graphics manufacturer, we received a snotty letter from the lawyer of a competitive company pointing out that we hadn't used the trade mark when referring to its product.

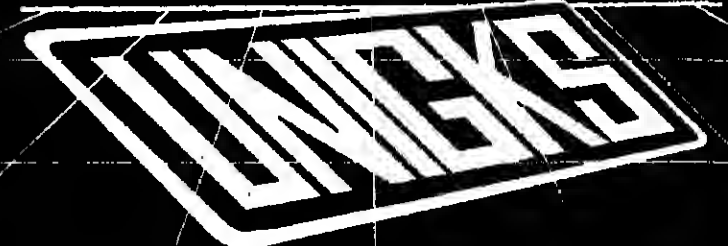
Now, we are obliged to - in ads.

If Chad would like to see less of those little signs, he is going to have to start a campaign for the reduction of lawyers, or at least Americans' seemingly excessive use of them.

I and several acquaintances will support the campaign.

DICK BARTO
The Pan-European Market
Executive
Amsterdam.

Euroras Colour Graphics Ltd ANNOUNCES



- Developing new graphics software?
- Need portability and device independence?
- Want to reduce development costs?

UNIGKS will help you achieve all these requirements.

UNIGKS is a realization of the Graphical Kernel System 7.2 level 2b adopted by ANSI and ISO to be the final international standard for computer graphics.

WHY UNIGKS?

- Contains a large number of simulations to compensate hardware differences at the highest level
- Includes full graphical output workstation independent segment storage
- Synchronous graphical input in all six input classes
- On every device linked to UNIGKS you may use segments
- 21 software text fonts
- Contains concepts for dynamic memory management
- You can run UNIGKS on distributed systems
- Available in ANSI FORTRAN 66 and 77
- Drivers provided for a wide range of CRT's vector and hard copy devices

FOR DETAILED INFORMATION PLEASE CONTACT:- CHRIS BALL

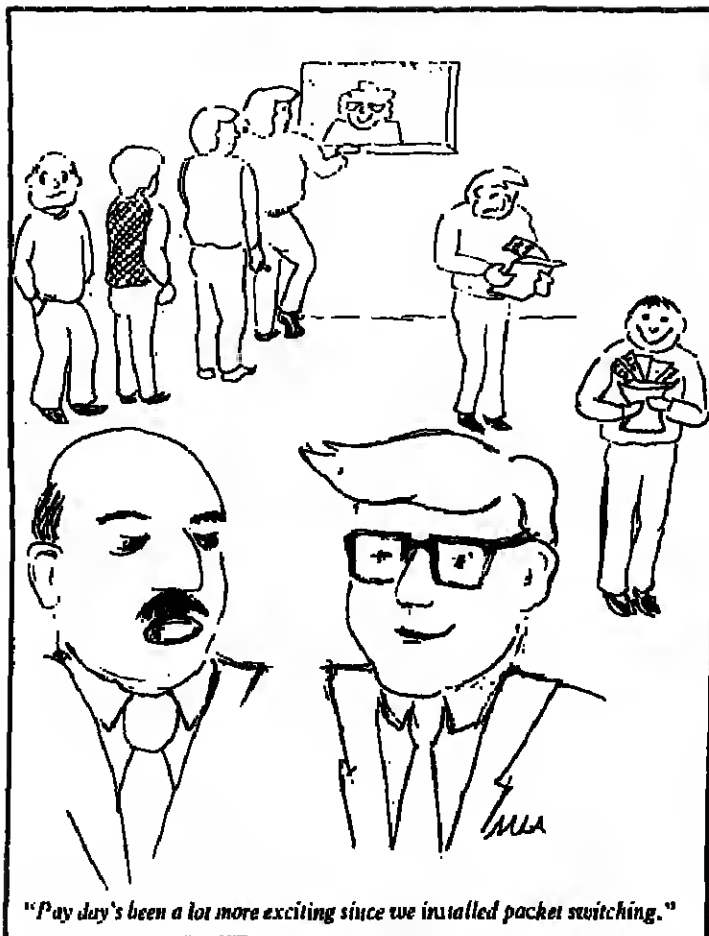
Euroras Colour Graphics Ltd,
City Plaza, 2 Pinfold Street
Sheffield S1 2GU Tel: 0742 755047

Lideware
File

by
Don



Code naming micro software distributor Websters Software has taken delivery of 20 new units in which to house around the Sherry computer. For the sake of the inhabitants of stockholders, let's hope they learn to park them in a more considerate than their publicity photo suggests.



How to understand the public data service

FRED JENNINGS of software and systems house Data Logic has prepared a series of reports on networks, called Jansheets. Here is the fourth in the series.

PSS is the latest data communications service offered by British Telecom. It is a national, public, switched data service and provides full duplex operation at transmission rates from 300 to 48,000 bps.

Two types of terminal can be connected to the PSS network, a packet terminal and character terminal.

The PSS provides a communication link between terminals operating at different speeds. For example a packet terminal operating synchronously at 2,400-48,000 bps can communicate with an asynchronous character terminal operating at 300-1,200 bps.

A packet terminal is an intelligent device (ie microprocessor, minicomputer or computer), which communicates synchro-

nously at 2,400 bps, 4,800 bps, 9,600 bps or 48,000 bps with the PSS using the PSS three-level protocol (X25). This synchronous connection to the PSS can only be provided by British Telecom and is known as Dateline.

A Dateline rental includes charges for the packet terminal's modem, the leased line to the PSS exchange, and the modem plus dedicated port in the PSS exchange. The important difference between Datelines and normal leased line connections is that the Dateline charges are completely independent of the distance between the packet terminal and the nearest PSS exchange.

A character terminal is a terminal such as a teletype-compatible VDU or a teletypewriter, which communicates asynchronously at 300 bps, 75/1,200 bps or 1,200 bps with the PSS using the PSS Pad (X28) procedures.

A terminal that operates at

75/1,200 bps, sends at 75 bps and receives at 1,200 bps.

Character terminals cannot work directly to the PSS network, because they cannot make packets (not X25 compatible). Therefore they are connected to a packet assembler/disassembler (PAD) which is located within each PSS exchange.

This asynchronous full-duplex connection to the PSS Pad can be a dial-up connection at 300 bps or 75/1,200 bps or a Dateline (leased line) connection at 300 bps or 1,200 bps.

In the case of dial-up connection, the character terminal's modem is a Datel 200 or Datel 600 modem at the normal rental.

An additional requirement for a dial-up connection is the allocation by British Telecom of a network user identity (NUI) for which a rental is charged.

The PSS tariff structure is made up of three parts: access, usage and facilities.

The access tariffs include all charges required to connect to the PSS exchange (ie Dateline charges, Datel 200/600 modem charges, PSTN connection charges, NUI charges, etc).

The usage tariffs are based on the call duration (ie x pence per hour) and the quantity of data (packets) carried (x pence per kilobyte). A segment is equal to 0.64 octets (bytes) and is equivalent to half a packet.

The facilities tariffs include charges for close user group (CUG), transfer charge acceptance, minicall acceptance, permanent dialcall (PDC), logical channels, multiline, call redirection, Dateline to alternative PSS exchange and direct calling.

For more information on the PSS tariffs refer to the British

Telecom booklets PSS - A basic guide (PH 2827); PSS - Tariffs (PH 2825); and PSS - Facilities (PH 2826).

PSS exchanges will be located in the following places: Birmingham, Bristol, Cambridge, Edinburgh, Glasgow, Leeds, Liverpool, London, Manchester, Newcastle, Reading and Slough.

There are four possible line configurations for connecting a character terminal to a PSS Pad (see table 1). These are a Dateline 300 leased line connection; a Dateline 1,200 leased line connection; a Datel 200 dial-up connection; and a Datel 600 dial-up connection.

The character terminal will normally be a standalone VDU (standard teletype-compatible device) plus a document printer if required. Printing will be initiated by the terminal operator pressing the print key to print the screen contents on the printer.

The Dateline costs (shown in table 1) are independent of distance between the terminal operator's office and the nearest PSS Pad.

The dial-up connections have a higher usage cost an hour than Dateline connections and the PSTN connection charges will depend upon the distance between the terminal operator's office and the Pad and also the time of day.

For a Dateline-connected VDU the operator will identify the PSS packet terminal (Host) for PSS connection by typing in the Host's PSS address (nine to 11 numeric characters).

For a dial-up connection the terminal operator will first manually dial-up the Pad and await confirmation of a PSTN connection. When connected to the Pad the operator will type in his/her network user identity first.

Possible connections of a character terminal				
PSS (Pad)	Dateline 300	X28	VDU and keyboard	Printer
	300 bps each way			
	Dateline 300 is £800/year; usage 23p/hour			
PSS (Pad)	Dateline 1200	X28	VDU and keyboard	Printer
	1,200 bps each way			
	Dateline 1200 is £1,100/year; usage 23p/hour			
PSS (Pad)	Dial-up Datel 200	X28	VDU and keyboard	Printer
	300 bps each way			
	Modem is £150/year; NUI £20/year; connection charges £/hour; usage 88p/hour			
PSS (Pad)	Dial-up Datel 600	X28	VDU and keyboard	Printer
	1,200 bps each way			
	Modem is £160/year; NUI £20/year; connection charges £/hour; usage £1.23/hour			

Table 1

Possible connections of a packet terminal				
PSS	Dateline 2400	VDU and keyboard	Printer	
	2,400 bps each way			
	Dateline 2400 is £1,500/year; usage 23p/hour			
PSS	Dateline 2400	Center controller	Three VDUs & keyboards	
	2,400 bps each way			
	Dateline 2400 is £1,500/year; usage 23p/hour; logic/channels £4/year			
PSS (with alternative exchange)	Dateline 4800	Minicomputer	N terminals	
	4,800 bps each way			
	Dateline 4800 is £2,500/year; usage 23p/hour; logic/channels £4/year; three exchange £2,500/year			

Table 2

PUZZLER

FIVE men - A, B, C, D and E - are engaged in digging a hole in the road. At a given moment one morning some are working, some are leaning on their shovels, and all of the following five statements are true.

- (1) If A is working, so is B.
- (2) Either D or E, or both of them, is working.
- (3) Either B or C, but not both,

is working.
(4) D and C are either both working, or both leaning on their shovels.

(5) If E is working, then A and D are also working.

Which of the men are working, and which are leaning on their shovels? See page 63 for the complete Operational Status in this interesting case.

The facts on Fibre-optics.

Crystal Clear Communications

With fibre-optic cabling, data transmission is free from any kind of interference, which enables operations to proceed in electronically noisy environments.

None of the noise or electro-magnetic interference you experience with ordinary copper cable lines - so there's no worry about cross talk.

Security of Data

Fibre-optics provide high security of data during transmission, making them particularly suitable for applications in banks and finance houses where security of data is vital.

The signal quality is also far superior than that previously available with copper cabling.

Easy to Install

With fibre-optic cabling, systems can be installed in confined spaces far more easily than conventional cables.

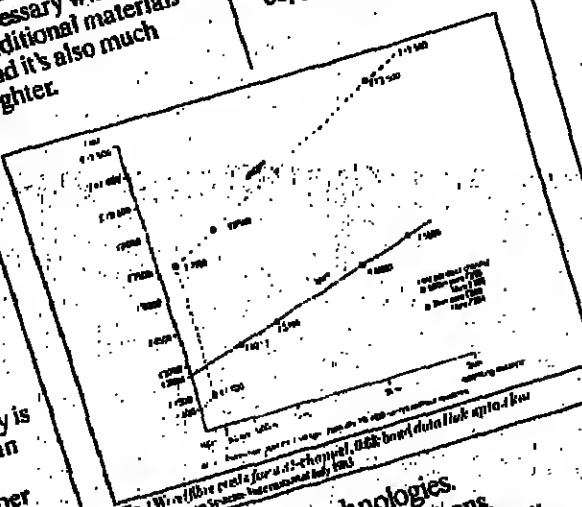
Particularly useful when installations are required in underground ducts where space is very limited. It has the advantage of greatly reducing the volume and number of duplex lines which are necessary with traditional materials and it's also much lighter.

Versatile Data Transmission

You'll be able to take advantage of the wide bandwidth, high speed and overall efficiency of transmission with fibre-optics.

Cost Effective

And most important of all, fibre-optic cabling is much more cost effective in short or long runs than copper cable.



Pilkington Fibre-optic Technologies. The leading light in data communications. Act on the facts. Ring our number for further details.

PILKINGTON
Fibre-optic Technologies
Pilkington PLC Limited
150000 Road, North, Chesham, Bucks HP8 4JL
Telephone 0494 613333 Telex 64231

How to tame the renegade personal computer.

It starts with one personal computer in your company. Then another, and another. Finally it becomes clear that they're here to stay and that it's you that will have to stop them running riot.

Cullinet's Information Database does it for you.

It's a relational-based information centre that links your IBM mainframe to IBM personal computers. Running on the mainframe, it summarizes and stores data from all computer file systems inside and outside the company including VSAM files and IDMS or IMS data-base systems.

This way, personal computer users gain direct access to an infinitely broader source of data in a very simple way, and, as the systems connect in a network, allows them to link and share information with others.

So now you can bring a workable and defined strategy to corporate personal computing. And because Cullinet's Information Database integrates with IDMS/R as well as with Cullinet's Applications Software and Personal Computer Software you can create a system, from one supplier, for the information exchange across the whole company.

Now, finally, you can stop wondering how to turn personal computers from mavericks into useful tools.

The answer is software. And software is Cullinet.

PEOPLE

The Information Technology Division of Thorn EMI has established its headquarters at new offices in Sunbury-on-Thames, Middlesex, and announces the appointments of Bill Ellis as marketing director, and "Jug" Pandit as planning director. Ellis was previously group sales director of Software Sciences. From 1980 until the company was acquired by Thorn EMI in 1982 he had been managing director of Software Sciences International. Pandit previously worked for ICI, Gulf Oil and Unilever in engineering, computing and planning functions.

Gary Waller has recently obtained an upper second class honours degree in computer science at Brighton Polytechnic. Waller joined Rediffusion Computers Ltd in September 1979 as a sponsored student on the four-year BSc sandwich course. Waller will now be based at Crawley, as a programmer in the technology department of Rediffusion Computers Ltd, designing a new operating system to replace the Rediffusion R-range of minicomputers.

Mike Williams has been appointed to the new position of manager for STC Micros - a sister company to STC Instrument Services. Previously internal sales manager for STC Instrument Services, Mike also has six years' experience as a field sales engineer with STC. Prior to joining the company, he was employed by Philips Electronics Instruments at Pye Unicam, Cambridge.



NCR has announced important changes to its marketing organisation. It has created two new divisions - product marketing and customer consultancy services which will report directly to chairman and managing director Frederick Newall (above left). The product marketing division will have the prime objective of developing plans that ensure that NCR sell new products in large quantities and will monitor and direct all product performance. Graham Miller (above right) has been appointed to the new post of divisional director. Miller was previously divisional director, marketing services. The customer consultancy services division will have the prime objective of marketing and selling the entire range of computer services except for field engineering and data centres. This includes central systems services, customer software support, application software development and education. David Collins (above centre) has been appointed to the new post of divisional director. Collins was previously divisional director, education.

Alan Whitty has been appointed by Rediffusion Computers Ltd, as customer services supervisor for the south-east branch. Whitty joined the company in 1981 as a customer engineer having previously spent nine years in the Royal Corps of Signals. He is also qualified as an Army telecommunications technician.

Enid Mumford, a Manchester, business school professor, is the first recipient of the J. D. Warner Prize for major contributions in the theory and practical application of information engineering. Mumford, professor of organisational behaviour, was awarded the prize at the annual DSSD User's Conference sponsored by Ken Orr and Associates, a computer research and development firm. The prize included a medal and a \$3,000 cash contribution. Prize committee chairman Gerald Weinberg, an internationally known author and lecturer, and Warner made the formal presentation. The prize honours Jean-Dominique Warner, longtime member of a research group at La Compagnie Internationale pour l'Informatique (CII-Honeywell Bull) in Paris. One of Europe's leaders in the information science field, Warner has published several books on logical approaches to solving problems with data processing systems. The Paris resident, who recently retired from Honeywell-Bull, continues to lecture and work with universities and companies around the world.

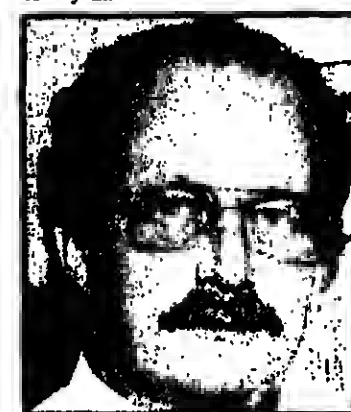
Tharnc Systems has announced the appointment of Malcolm Farrar as manager of the disc products division. Farrar replaces Mike Pearce who was promoted recently to head-up the MEMEC Group's latest addition, Ambar Systems Ltd. The division is principally concerned with the distribution and support of Winchester tape drives and associated controller systems, to the OEM. Farrar, aged 34, joined Tharnc from Apple Computer (UK) Ltd where he was major accounts manager, and brings with him considerable experience from time spent with Callog and Case.

At a recent executive committee meeting, the Computer Retailers Association elected Paul Rayner, the previous vice chairman, to the post of chairman. Paul Rayner is one of the original members of the CRA. He began his career with IBM in Australia and gained valuable experience in both Australian and United Kingdom companies in the computer field. He is the managing director of Great Northern Computer Services which specialises in software consultancy and training for both users and dealers of CP/M and Apple microcomputers.

Tony Patston, (right) has been appointed to the board of the human resources division of leading computer software company, Package Programs Ltd. His promotion to director is the latest step in a career in computing spanning 14 years. Tony, 39, has worked in a variety of computing organisations and in data processing in industry. He first joined PPL 2 years ago, as a support manager responsible for a team of client support personnel during the time when the new legislation on statutory sick pay was being implemented. He was largely responsible for the addition of statutory sick pay to the sophisticated payroll and personnel systems supplied by PPL to its clients.



David Reavley has been appointed managing director of Lanier Business Products in the UK. Previously word processing manager with Olivetti, he is the first English managing director appointed by Lanier.



John Howarth (below, left) has been promoted from southern region sales manager of Microdata Information Systems to the newly-created post of director of sales and marketing. John left IBM for Microdata (CMC, as it was then) in 1980. He joined initially as business development manager for the Reality range of products and was also responsible for the introduction of the 32-bit Sequoia supermini on to the UK market. He became southern region sales manager two years ago, responsible for seven of the company's sales branches, and under his leadership, the percentage contribution of the region to Microdata's overall growth pattern increased significantly. Establishment of the new position gives John nationwide responsibility for order intake, product marketing planning and strategy, and technical support to the customer base.

Following the departure of Mike Lurch from Mattel Electronics UK, Ian Wilson has been appointed managing director. He was formally director of finance and operations. At the same time, Terry Shurwood has been appointed director of sales and marketing.

DIARY

NOVEMBER 4
Tutorial on CITT Specification and Description Language (SDL) at GEO Telecommunications, Coventry. Details: Rick Reed, PO Box No. 53, Telephone Works, Coventry CV3 1HJ, or 0203 446902.
NOVEMBER 7-9
Seminar on Finberg & Yates Telecommunications: the next 10 years, at the London Tara Hotel, under the auspices of the CGS Institute (Cap Gemini Societ Group). Details: Diana Picher, Russell House, Russell Street, Windsor, Berkshire, SL4 1HQ, or 07535 58811.
NOVEMBER 7-11
Taurus Technology are introducing a new course on Ada programming language in London. Cost £550. Details: Sally Riley, 43-44 Great Windmill Street, London W1V 7PA, on 01-734 7394.
8100 programming course. Fee

(including accommodation, meals, but not VAT) £415. Details: C. Hemsworth, Acting Head of Training, Compower Training School, Cannon, Staffs WS11 3HZ, on Cannon 2511.
NOVEMBER 7-DECEMBER 2
Systems analysis and design course at the London Training Centre, Holborn. Priced at £11.50, and leads to the examination for the BCS/NCC certificate. Details: Philip Coker, Data Training Ltd on 01-404 5444.
NOVEMBER 8
Talk on the Electronic Newsroom system by Tam Fry, special assistant, current affairs programmes at the BBC. British Computer Society. Meeting at Fairfield Hall, Croydon at 7.15. Details: David Bare, publicity officer, Honeywell Information Services Ltd, Kings House, 174 Hammersmith Road, London W6 8BS, on 01-748 4191.

CONFERENCE

NEW applications, pilot projects and new developments in interactive technology will be revealed at EPIC's third annual Interactive Technology Briefing. The two-day conference will be held on Tuesday, November 22 and Wednesday, November 23 at the CFS Conference Centre off Baker Street in central London. The speakers are all people working in the heart of interactive technology. They will explore the

truth and the rumours about developments in the UK market. The briefing will focus on practical demonstrations as well as discussion. On both days, guests themselves will be invited to try out a variety of systems and programs, some of them on display for the first time. A number of new UK applications will be discussed and/or announced. This session should show widespread use of interactive video in advertising agencies, engineering, maintenance manuals and training, educational publishing, government, the motor industry and trades union. Generic videodisc courses, project management, tapes and discs, and the training of trainees will also be discussed. Call Brown, Conference Organiser, EPIC Industrial Communications, 28 Litchfield Street, London WC2H 9NJ. Tel: 01-240 5869.

Precision Software, the independent software house specialising in the Unix operating system market, has appointed John Dobson as senior sales consultant. He will be responsible for marketing a wide range of Unix-based applications systems to manufacturers of 16- and 32-bit microcomputers nationwide. Dobson joins Precision from Amxon, where he was responsible for setting up its Growth Path scheme, involving Unix-based Plexus supermines and associated time-sharing services. Prior to this he was general manager of Sigma UK.

John Howarth (below, left) has been promoted from southern region sales manager of Microdata Information Systems to the newly-created post of director of sales and marketing. John left IBM for Microdata (CMC, as it was then) in 1980. He joined initially as business development manager for the Reality range of products and was also responsible for the introduction of the 32-bit Sequoia supermini on to the UK market. He became southern region sales manager two years ago, responsible for seven of the company's sales branches, and under his leadership, the percentage contribution of the region to Microdata's overall growth pattern increased significantly. Establishment of the new position gives John nationwide responsibility for order intake, product marketing planning and strategy, and technical support to the customer base.

PRODUCTS



The Vision-EX Colour video is capable of input from both video signal and RGB separate signal.

Data Efficiency monitor

DATA Efficiency has launched a new Kaga/Taxon monitor aimed for use with most micros. Called the Vision-EX Colour Video, this monitor is capable of input from both video signal and RGB separate input signal, and costs £265. The low-cost, lightweight, 12in monitor is equipped

with a smoked filter to reduce eyestrain, and a 0.7W audio speaker, making it available for the microcomputer user, whether Apple, BBC or Commodore.

Data Efficiency (CW), Maxted Road, Hemel Hempstead, Herts HP2 7LB. Tel: (0442) 60155.

The fastest mobile waste bin in the world

THE fastest car on earth is now the British-designed and built "Thrust 2", which has recaptured the world land speed record for Britain by achieving a record speed of 633 mph at the Black Rock Desert, Nevada.

Richard Noble, Thrust's driver chose Trimite to supply the special high performance paint to protect his car from the extremes of temperature and the harsh effects of sand, fuel and lubricants. The paint came through this test unscathed, proving that Trimite paint provides a tough finish. The Data Efficiency (DE) mobile waste bin is finished in the same Trimite paint, and though



Trimite paint is the key to the waste bin.

nowhere near as fast, is designed to make a useful addition to the computer room.

Finished in an autumn brown colour, the DE mobile waste bin includes a lift-out fibre box liner and a removable laminate work-top, and costs only £111.

Data Efficiency (CW), Maxted Road, Hemel Hempstead, Herts HP2 7LB. Tel: (0442) 60155.

Websters teams up with Boots

WEBSTER Software, the newly-formed division of the Websters Group PLC, the £40 million communications business, has landed a new deal.

Websters is now merchandising software for personal computers into 277 Boots branches throughout the country. The Boots Group has already made clear its intentions to lead the computer market in the High Street. The arrangement with Webster means that Boots will be carrying software titles for all the major home computers. Computer buyers will now be able to obtain all the ingredients for home computing from one store, claims Boots.

A total of 20 branches of Boots have been supplied by Websters on a trial basis for three months. Sales figures have been encouraging, leading to the agreement with

Websters which could generate a turnover of £10 million in the first 12 months.

Recent news items have suggested that the home computer market may be beginning to slow down. Jenny Triss, marketing manager of Websters Software says:

"Anyone who understands the first thing about computing will tell you that it's software, rather than hardware, that matters."

"Hardware is increasingly becoming a commodity and the real marketing opportunities are in the development and distribution of software."

Websters Software (CW), Langham Park, Cotteshall Lane, Godalming, Surrey GU7 1NG. Tel: (048 68) 4152.



The re-adjusted personal computer has full IBM PC compatibility.

Re-fit for IBM PC lookalike

COLUMBIA pc, the one-year-old 16-bit micro with full IBM-PC compatibility, is to reappear next month with a number of design improvements which will, according to main UK distributors Icarus Computer Systems, make it the undisputed No 1 IBM-PC look-alike in the UK.

A high resolution amber screen is incorporated as standard. Icarus Computer Systems (CW), 27 Greenwood Place, London NW5 1NN. Tel: 01-485 5574.

Baffled by computer malfunctions?

It may be as elementary as your power line — and it's easy to track down with the new Dranetz Series 626.

Solving puzzling malfunctions becomes most elementary with the new Dranetz 626 Universal Disturbance Analyzer — because only the 626 lets you monitor all the critical power parameters and other types of disturbances that directly affect computer operation.

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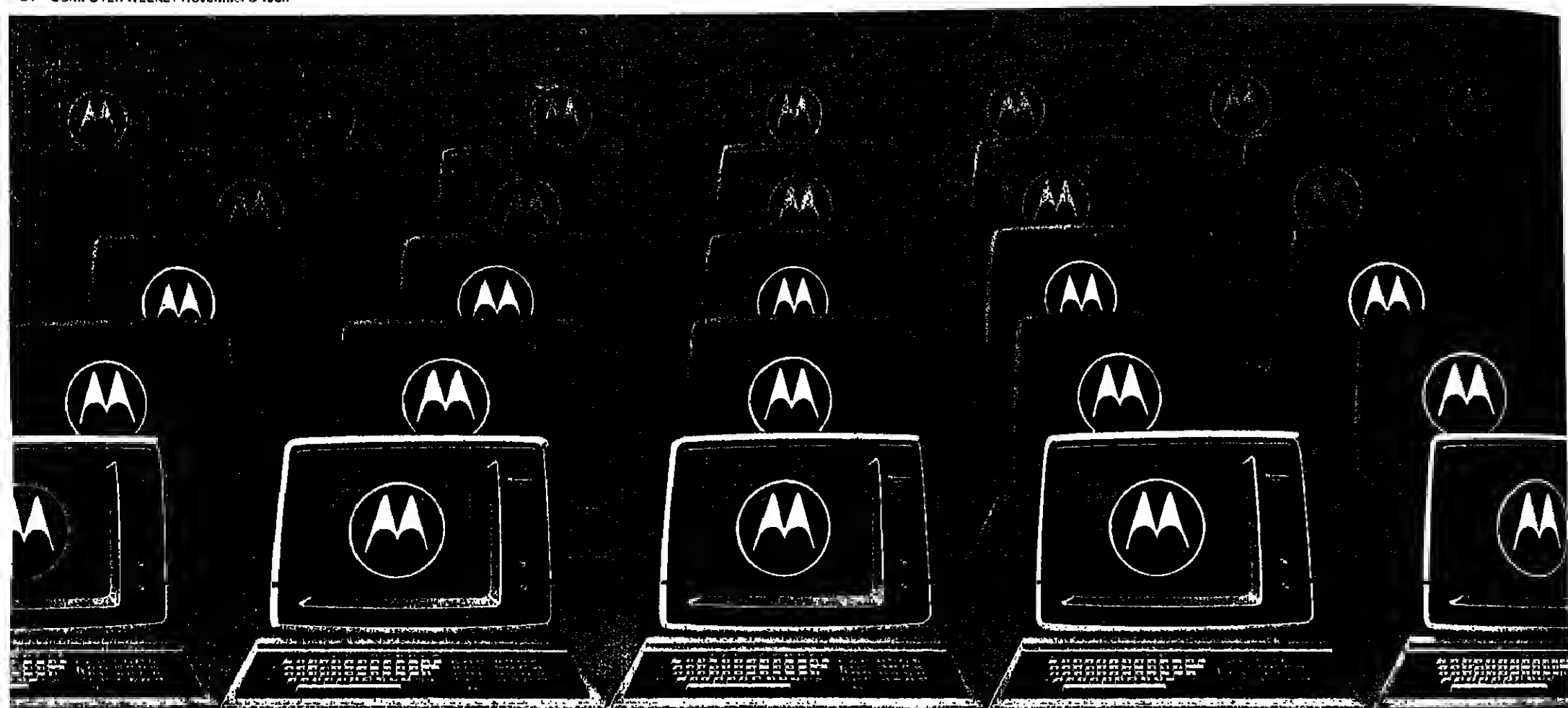
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For more information, call us, write us or visit the Motorola Information Systems displays at the upcoming office automation exhibitions. We have a lot to talk about.



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SOFTWARE MONTH

The international banking harvest is ready for reaping

Banking software has great potential. Software Month looks at its successes so far and its future possibilities

THE layman will be excused for thinking that the market for banking software is limited. There are, after all, as few as 400 banks in London, which is still the recognised financial centre of the world.

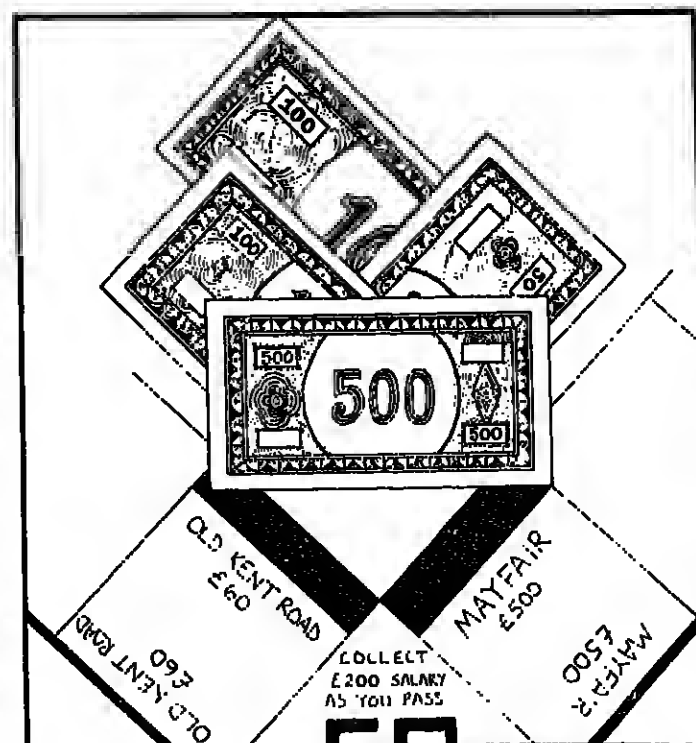
But to explain the importance of the market, one must remember to multiply this 400 by many times in order to cover the whole world market - noting, of course, that finance is international, and this is one of the few applications that doesn't require abortive rewrites for each different geographical location.

And then one must remember the value of the market (one foreign bank recently opened shop in London with an office, a staff of two, and an ICL mainframe).

Note, too, Reuters' rapid rise to enormous profits on the back of its new computerised information service: quadrupled profits in its first year; over £36 million profits last year; and sales of £60 million and £80 million this year and next respectively.

And finally, remember the prestige involved in selling to the large international banks.

Little wonder, then, that ICL should hold a grandiose press gathering to announce its latest sales successes and future plans. The overall presentation was planned to deal with seven major developments, ranging from Chaps and Bacs to three major new orders: nearly £1 million for a 2966 mainframe to run Sprius software for the specialist insurance bureau company, Sherwood Computer Services; a £2 million contract to supply the National Savings Department's Savings Certificates and Save-As-You-Earn office at Durham; and a £3 million plus multiple order - Super Dual 2988 with a CAFS information search processor, an MB29 mid-range mainframe and a System 25



One must remember the value of the banking software market.

minicomputer - for the National Girobank.

This last order will run the bank's own software, but includes IDMS-X (integrated data management system), TPMS (transaction processing management system), Querymaster and Reportmaster.

With such enormous potential, there is little wonder that nearly every major hardware manufacturer and leading software house has its own banking software.

Indeed, one company has specialised in watching everyone else. The company is Distributed Systems, and its products are the Survey of International Banking

Systems and the Survey of Investment Management Systems.

"Our main work is in systems analysis and consultancy within the financial sector," explained managing director John Clapperton. "This work consistently brings us into contact with the different packages available. We decided, therefore, to survey all of the systems, and to make the findings available to potential users - particularly the new foreign banks in the City."

"Since each of the directories represents something equivalent to about three months of top class consultancy (or about £12,000 at today's prices), we feel that a cost of £500 for the banking and £400 for the investment surveys is good value for money."

Sales clearly back up his conviction, for the company has already sold something between 60 and 70 copies. When this is related to the size of the market, with only 400 banks in London, then it is evident that the product has gained a market share that would be the envy of any manufacturer.

The latest edition, incidentally, was published only a few days ago on November 1 1983. It, like its predecessors, covers about 25 of the major banking systems.

Clapperton also explained the history of banking software, and why he felt that his surveys were so important. "By the mid-70s," he said, "about 90% of all the international banks had been computerised."

"The problem is that most of these systems were batch-orientated. This meant that some banks needed to cease trading by 4.00pm in order to start the batch updates. This could then go on until well past midnight if the bank was to have any hope of getting its reports on to management desks by 9.00am next day."

"Apart from the expense of overnight processing, the sheer logistics of getting staff to end from the City in the middle of the night when all life and London Transport had ceased, was no mean feat."

Slowly, the pressures against batch systems began to mount: staffing; newer on-line technologies and lower hardware costs; and, of course, the increasing complexity of international finance - banks simply need minute-by-minute information."

This is a view echoed by Iain Awry, the banking manager at Geisco. "Banks and their larger customers," he explained, "have a particular need to have information from all parts of the world immediately available. When financial decisions are made on a global basis, facts from a large number of countries often need to be consolidated in a very short time."

"A classic example of this is found in international banks making loans to countries and organisations from their branches around the world. If total exposures to each type of debt are not controlled, it is probable that the various branches will continue to lend until prudent levels of risk are exceeded."

Geisco has its own risk control software, called the Global Limits System, which continuously consolidates and updates worldwide limit and exposure information, provides dealers with information on amounts currently available within the present limits, and also provides general management information.

Over 90 banking institutions offer funds management services

"Fresh pressure is emerging from the big international banks"

using Geisco's services (about 80% of all the available systems), while over 400 banks rely on Geisco services as a vehicle to distribute information quickly and confidentially throughout the world.

Fresh pressure, however, said Clapperton, "is emerging through the arrival of the big, and particularly the big American, international banks."

"Because of time differences, these international organisations trading in New York, London, Paris, Frankfurt, the Gulf, Singapore, Hong Kong, Tokyo and Los Angeles are effectively dealing on a 24-hour basis. Trying to get everything into focus demands worldwide, real time communications."

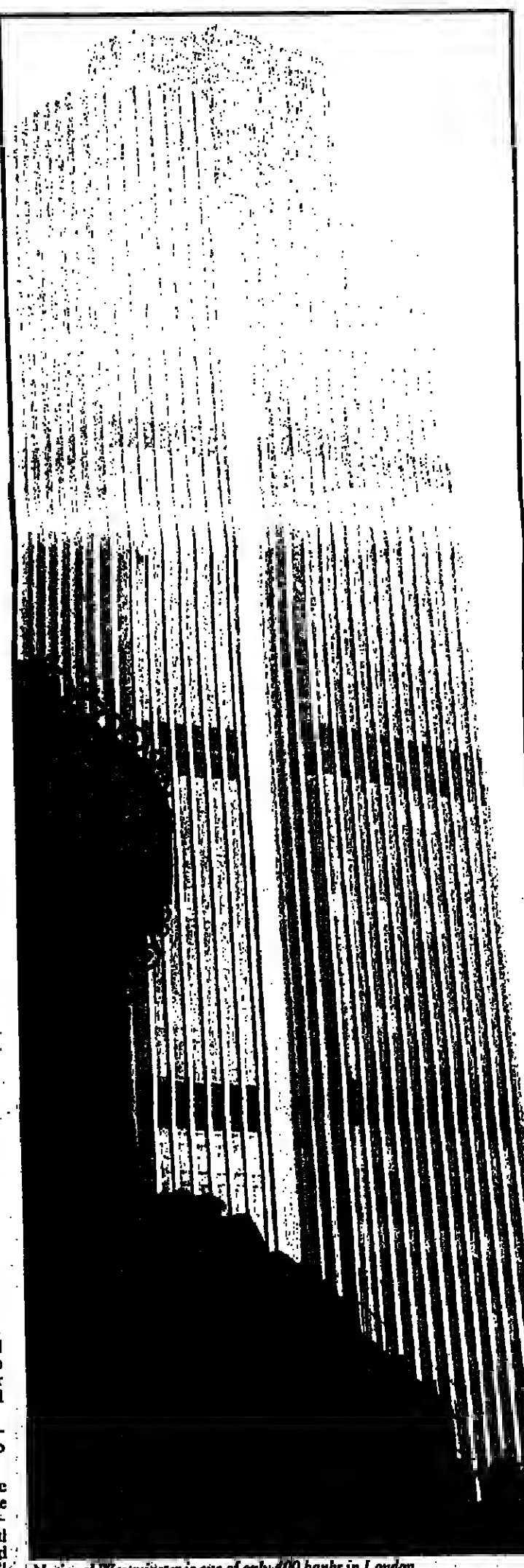
"But not only is the current interest in real time, there is a distinct movement towards a database type of banking system. A bank's larger customers may have different accounts in different branches all around the world, and the bank must therefore be able to get worldwide overall customer profiles to discern the overall credit or debit situation."

"A database approach is essential - how else could a bank keep track of a company like GEC?"

"Real time database systems are beginning to appear, but the majority are still batch systems - hence our surveys, which should save a lot of time and effort, and possibly prevent the odd disaster."



CLAPPERTON: "Banks simply need minute by minute information."



National Westminster is one of only 400 banks in London.

SOFTWARE MONTH

Wind blows through Stock Exchange

Change is giving the computer a niche in the stockbroker market

ACCORDING to Peter Cobb, ICL's Stock Exchange account controller, "there is a wind of change blowing through the Stock Exchange".

It is a wind initiated by the last Labour government, and pressed home by the current Tory regime. It started as an investigation by the Office of Fair Trading (for the traditional Stock Exchange is riddled with restrictive practices), and it has led to a compromise package with the present government.

The Stock Exchange must and will mend its ways - slowly and under protest.

In principle, the role of the stockbroker is very simple. A client goes to his broker and instructs the purchase of stock. The broker, however, cannot go to another broker directly: he must work through a jobber.

It is the jobber who "holds" the stock, and as a middleman makes the deal between two brokers working for their respective clients. There are only 14 jobbers in the country - all but one of whom are based in London.

"In practice, however," says Barry Jenner, managing director of the Timon Computer Group, "the role of the broker is very complicated. The Stock Exchange Rule Book is enormous - the

commission rules alone run to 50 pages!"

To help the broker cope with the demands of the present situation, Jenner's company has developed two compatible systems: Cash (Contract Accounting and Settlement Handler); and Appraise, a portfolio management system that can be used with Cash

around 14-day accounts. The broker and jobber settle their deals at the end of each accounting period with the Stock Exchange computer system, Talisman, which matches the various sales and purchases. But in that time, a large broker may have created something like 20,000 deals with several different jobbers.

the jobber: this is one area that government wants to change, saying the jobber must go. The Stock Exchange itself claims that the system works well enough as it is, but, says Cobb, "it is fighting a losing battle to delay the day of change."

"Within the next few years the role of the jobber as a separate function will disappear. So, too, will fixed commission rates for brokers."

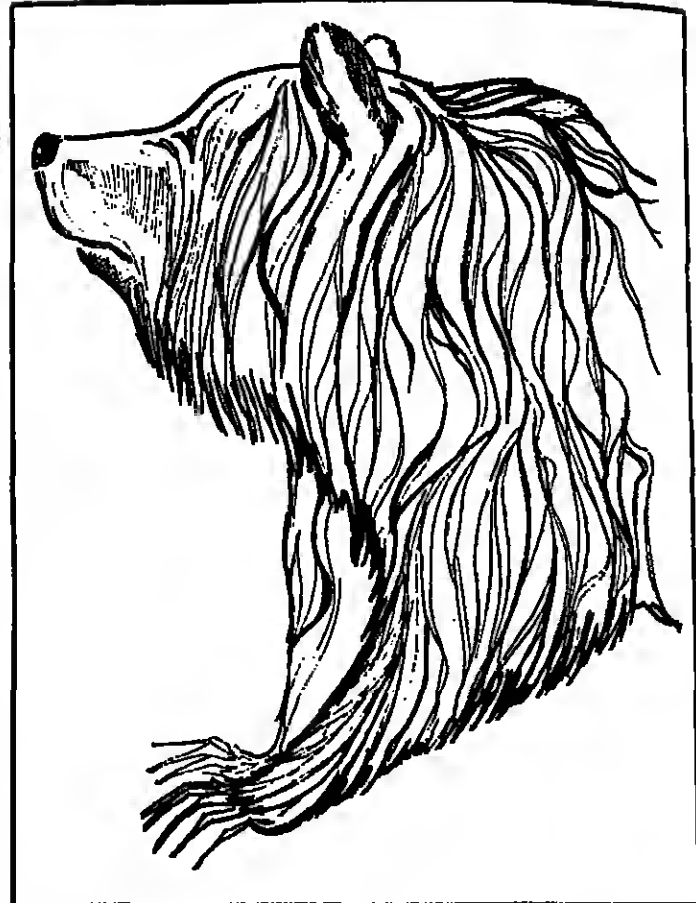
Fixed commission rates are anathema to free enterprise, which is why they must go. But even the tightest cartel will break in time (as in Opec and the building societies).

Sooner or later stockbrokers will undercut each other to win more business - and the only way this can be done, without reducing the service, is by using computers.

Timon's Cash program, running on ICL equipment from the ME29 upwards, is one.

"Brokers," says Jenner, "are judged by their service." The workload of the average broker, however, fluctuates from day to day. "One day he might make 1,000 bargains, next he'll make 100. It's very difficult to staff these situations - to employ enough people to cope with the peaks without straining the finances of the company."

"Cash can handle up to 2,000



The Bear...

bargains a day, and can smooth out the peaks and troughs of workload. It handles all the back office accounting and paperwork aspects of the work."

Computers, then, by increasing efficiency, will fuel the fires of competition. Once one or two leading brokers are computerised, and fixed commission rates are abolished, all brokers will need to use computers in order to survive.

The second threat to the status quo will come with the abolition of the jobber's function as a separate entity. The jobber's role will merge with that of the broker, a

system known as "dual capacity" that already operates in the US.

The broker will need vast sums of capital in order to hold the stock to enable him to deal with other brokers - and the danger is that it will come from North America, where there is already substantial capital, dual capacity experience, and extensive computerisation.

At the moment, the present situation excludes American intervention; but the short term future may well see US companies moving into the Stock Exchange in the same way as the last few years have seen their arrival in the UK insurance market.

"It is clear," says Jenner, "that UK stockbrokers must computerise fast if they mean to face the future with confidence."

Cash is an ICL TraderPoint system. Cobb explains the background: "In the past ICL had a strong presence in the City, but much of this was lost in the bad days of the late '70s. Now we are beginning to reassess ourselves, and have won a number of major orders in the last few months."

"Portfolio managers can see at a glance all their clients' details on the screen"

"Until recently all of our installations in the stock market have used their own purpose-built software, and there hasn't been much interchange between them."

"We started developing our own package in conjunction with an existing user, but the whole project became too costly. So we looked around the packaged market and found Cash."

"Timon has put something like 80 man years of effort into the system, and has the software support facilities and the market knowledge to back up ICL's hardware support."

Cash can interface to the second Timon package, Appraise. Where Cash handles the back-office functions, Appraise is a portfolio management system.

"Portfolio managers," explains Jenner, "whether they are with a broker, an insurance company, a pension company or simply a large corporation, can see at a glance all their clients' details on the screen, while actually talking to that client on the phone."

Support for the Timon packages comes from Gerry Chalmers, a partner in the stockbroking firm, Quilter Goodison: "We've got the system on a three-month trial while we adapt it to our procedures, and our procedures to it. It is already clear, however, that Appraise is the best portfolio management suite I have seen."

SOFTWARE MONTH

Banking on powerful profits

Rigid bureaux or flexible in-house computer departments? The competition for financial orders is hotter than ever

INTERNATIONAL finance is synonymous with profits - for the computer industry as well as the banks themselves. ICL's latest crop of financial orders has already been described in Software Month; as has Reuters' continued growth.

As one software house describes it, "it's not a big market, but then they're not cheap systems".

There is choice, however, and whenever this happens, the software market soon becomes oversubscribed. It hasn't happened yet in banking software, but it is surely on the way.

One of the first battles is the continuing one between in-house and bureau supporters. Barry Jenner of the Timon Group claims that there is a distinct move "away from bureau services, because on the one hand it is expensive, and on the other hand it is inflexible".

Jenner specialises in software for the Stock Exchange, and says: "The broker will need to provide a total, flexible service; and the bureau cannot provide new services quickly enough. Hardware costs are coming down all the time, so moving in-house is particularly cost-effective - in fact, I cannot see the smaller bureaux lasting for much longer than another three years."

They're caught in a vicious circle - as their clients desert them they are forced to put their prices up to make up the revenue, and when this happens, more clients are tempted to move in-house."

Jenner is not, of course, suggesting that bureaux of the size of Geico will be out of business within three years. International



DOWNNEY... "UK prospects remain excellent"

provide front office capabilities, the this concept was that, as transactions emanate from the front office, so a modern banking system should be dealer driven, and management control information should be available minute by minute - and not on a historical basis.

This competes head-on with ICL's BankMaster, which was developed by Triple A Systems and launched almost two years ago. During those two years the system has had 15 installations, 10 of which are based in the UK and six were during the last six months.

"Prospects in the UK, based on current negotiations," says managing director Ron Downey, "remain excellent. We are about to go international (with a launch in Hong Kong at the end of October), and we expect to take Far East orders within a few weeks."

The marketplace for BankMaster is not the clearing houses, but the smaller foreign banks and merchant banks throughout the world.

"When we first entered the market, the majority of systems were either batch or tweaked batch - and they were also expensive," says Downey. "We saw an opening for a new package designed from the outset as a package."

"Again, unlike many of our competitors, BankMaster is not an adapted single-customer product forced into a package role. It is a parameter-driven, real time, on-line, modular, multi-currency banking system, handling all areas of retail and wholesale banking. Because it is parameter-driven, the end result is that Triple A delivers a tailored package to its users."

But it is not just mainframes that are involved in the banking market. The Sidney Development Corporation has a distributed processing system for brokers, with local micros and software interfaces into microcomputing standards like WordStar and SuperCalc.

Reuters is also moving into the market. "The Reuter Monitor Dealing Service," explains Iain Smith, projects planning manager, "was launched in February 1981

and is now moving into the market. "The Reuter Monitor Dealing Service," explains Iain Smith, projects planning manager, "was launched in February 1981

One company that aims to offer its users a choice of both in-house and bureau systems is Tymshare Inc, a company founded in 1966 as a computer services company offering intensive timesharing bureau facilities through its worldwide international communications network.

Its main financial offering is this, which, according to Paul Field, manager banking systems, "is available on a timesharing basis or can be installed in-house on Digital's computers."

He continues: "This is an online, real-time computer system designed to meet the management control and information requirements of international banks in the 1980s."

"Unlike many banking systems, which were designed as accounting systems and then developed to

and now serves over 400 subscribers worldwide, enabling banks to conclude foreign exchange transactions within four seconds via a dedicated part of the Reuter worldwide communications network. The network is itself the largest privately leased line network in the world."

This, as everyone is by now aware, has proved phenomenally successful, and has provided Reuters with the finance and incentive to move further into the banking software market.

"We have acquired," Smith continues, "exclusive rights to the position-keeping package developed by Hovland Business Systems."

"There were a number of reasons for choosing the Hovland System. The ability to do away with the traditional pencil and paper at the dealer's desk by giving him an automatic record of his transactions in relation to his overall position is a significant marketing development."

"Unlike most other systems attempting to capture the same information, it has been deliberately designed so that the dealer himself can enter all the information required with a minimum number of keystrokes - as little as six in some cases."

"Unlike any other system, automatic access to the Reuter Monitor Dealing Service and the Reuter Money Rates Service is provided direct from the dealer's workstation."

"Another prime feature of the Hovland development is that the data is entered via a digitiser and can thus be entered in random order according to what information is available to the dealer. This corresponds to the real world where the dealer does not necessarily know whether his first concern is going to be a particular currency, or a particular bank, or a particular broker."

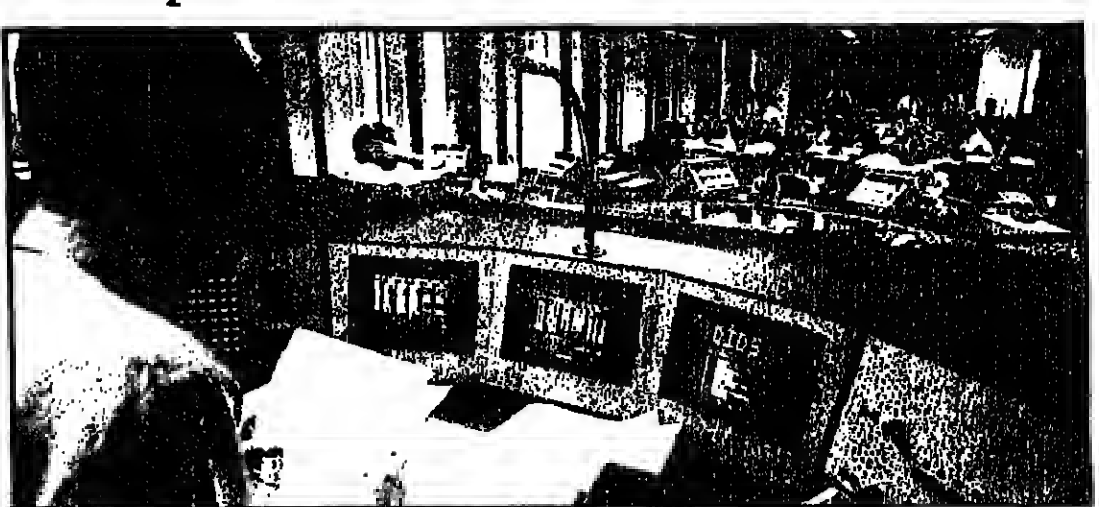
Significantly, there is a Reuters terminal on the desk of one of the major American banks in London - as well as a VT100, an IBM PC, and a couple of printers. The bank has asked not to be named although it can be described as an American equivalent to Barclays.

It has a new UK software package developed by GBC Viewdata Systems and called Poxi. This is an up-to-the-minute real time database foreign exchange dealers and management information system.

"The system," says a spokesman for the American bank, "is really excellent. It has given us a real edge in the market."

"When somebody wants a quote for currency, we can do it much faster than our rivals without Poxi - it even updates Reuters pages in five to 10 seconds. And it is excellent in enabling our dealers to spot arbitrage opportunities."

"But I couldn't recommend it to anyone, because GBC's back up is simply appalling."



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It is not just mainframes that are involved in the banking market

time-sharing systems of this size will surely remain for many years.

Geico employs more than 5,000 people in over 180 offices throughout 26 countries. Its 1982 revenues exceeded \$600 million, and, in the UK, its services are used by more than 60 of The Times Top 100 companies.

Geico sees its banking role as one of "integrating global communications technology and central computers with a variety of local systems in branch and central offices."

As Iain Awty puts it: "Any organisation that depends on accurate, up-to-date information from many locations, perhaps in different countries, is bound to depend heavily on multi-site, multi-user systems."

"Computers on their own, without a means to share information over a distance, can never give such organisations the full benefits offered by electronic methods of handling information."

One company that aims to offer its users a choice of both in-house and bureau systems is Tymshare Inc, a company founded in 1966 as a computer services company offering intensive timesharing bureau facilities through its worldwide international communications network.

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"Unlike many banking systems, which were designed as accounting systems and then developed to

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GRAUBARD... "Banks must look for solutions to attract customers."

Attractive software comes to the UK

Customer-oriented banking software is poised to cross the Atlantic

IN the US, banks give away money to attract new customers. It is all part of what the Americans call "relationship banking".

Hogan Systems, a Dallas, Texas, software company, is determined to bring relationship banking to the UK, although probably without the money.

Hogan is a typical US success story - started in 1977, it delivered its first system in 1979. It has since sold software to well over 80 of the largest US financial institutions.

It went public at the end of 1982, and is determined to obtain the same success in the UK that it has already achieved in the US. For the year ending March 31, Hogan reported \$3.7 million profits on sales of \$17.1 million.

It is believed finally to have made its first breakthrough in the UK with a £1 million plus order from one of the major clearing banks. With word of mouth selling particularly important in banking circles, that order could provide the springboard for further UK sales.

Richard Sireller, president of Hogan Systems, describes relationship banking in the following way: "Free market movement demands that banks be prepared to react quickly to competitive moves and customer needs. They must be able to determine accurately the profitability of groups of customers or even of specific customers."

"The banks must be ready to tailor financial services to each customer, depending on that customer's total relationship with the institution."

What Hogan offers is software designed for IBM, or IBM compatible systems, which allows banks or building societies to tailor services for customers. As importantly, it allows branch managers to analyse individual customers' requirements and determine whether they will actually be profitable customers for the banks.

According to Allan Graubard, vice-president, international marketing, Hogan software is customer rather than account based. Hogan provides "what if" type products, which can determine whether certain customers are profitable to the bank.

It is a hard truth, but some customers are unprofitable: banks in the US have been known to raise the charges so high for unprofitable (although reliable) customers that they have driven them away. The result has had a happy effect on the banks' balance sheets.

Graubard, who has the responsibility of setting up distributor networks outside the US believes the market pressures which have made Hogan software so attractive in the US are beginning to emerge in the UK. The entry of the building societies into traditional banking areas, and the entry of banks into the mortgage market, are examples of the new competition.

Banks, Graubard says, must look for new solutions - solutions to attract new customers.

The need for innovative marketing by banks means they need to change their systems, he says.

The choice is for banks to develop their own systems, or go out and buy a package.

In either case, the system must be online. Hogan believes there are not too many banks which will want to "reinvent the wheel".

But Hogan's success in the US may not be so easily translated to the UK. UK banking is slow-moving, and there is a natural distrust of the American methods among many traditional bankers.

Wade Hanson, Hogan vice-president for sales, stresses, however, that Hogan is "dedicated to its European effort", and in for the long term. Hanson fully expects to put \$1 million into marketing Hogan products in Europe before he gets his first \$1 in return.

Hogan's market in the US is financial institutions with assets of over \$750 million, which means 300 of the largest US banks.

Hanson says that from the beginning Hogan knew it could not take the "big bang approach" and build a total system from scratch. Instead it has built individual components around a central unifying architecture.

Hogan's strategy has been to get participating banks involved in the development of products. The banks fund the development, and Hogan ensures the user point of view is taken into account in developing software.

When the product actually goes to the marketplace, Hogan pays

Hanson believes plastic is going to be the final communications medium

back a percentage of the money that the banks have invested.

So far Hogan has five major modules to its banking software. The first product in building the system was a deposit system, which processes all types of deposit transactions.

At the heart of all the software is what Hogan calls its Prophet System, which is central to the relationship approach that Hogan espouses. It allows financial institutions to analyse the overall banking relationship and determine profitability for particular customer or groups of customers.

Other modules being delivered are the Online Delivery System, software that links mainframe systems with automatic teller machines and manned tellers; a loans system; and an online collection system for management of all types of payments.

Under development is a "total card system", which will process all types of plastic card offerings, with on-line application processing and interface to national networks.

Hanson firmly believes that plastic is going to be the final communications medium between banks and their customers.

Also underway is a financial information system, which will include general ledger and reporting applications.

The architecture central to the individual modules is a software system called Umbrella. Umbrella, says Hanson, is the hub of the wheel, an independent module around which the others are built.

The Umbrella system, which is a non-banking piece of software, serves as a controller to link basic application programs with operating systems software, data communications, or database management systems.

Hogan will not have an easy time breaking into the UK and the rest of Europe. But its approach to "all in one" banking should give food for thought for British banks and building societies.

The success of its first installation in the City will be critical.



HANSON... "Hogan is dedicated to its European effort."



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IBM DB/VS COBOL ANALYST/PROGRAMMERS

Immediate opportunities and a straight deal...

Call Debbie (Hemel Hempstead) on 0442 40761 or Isabel (Croydon) on 01-681 8311

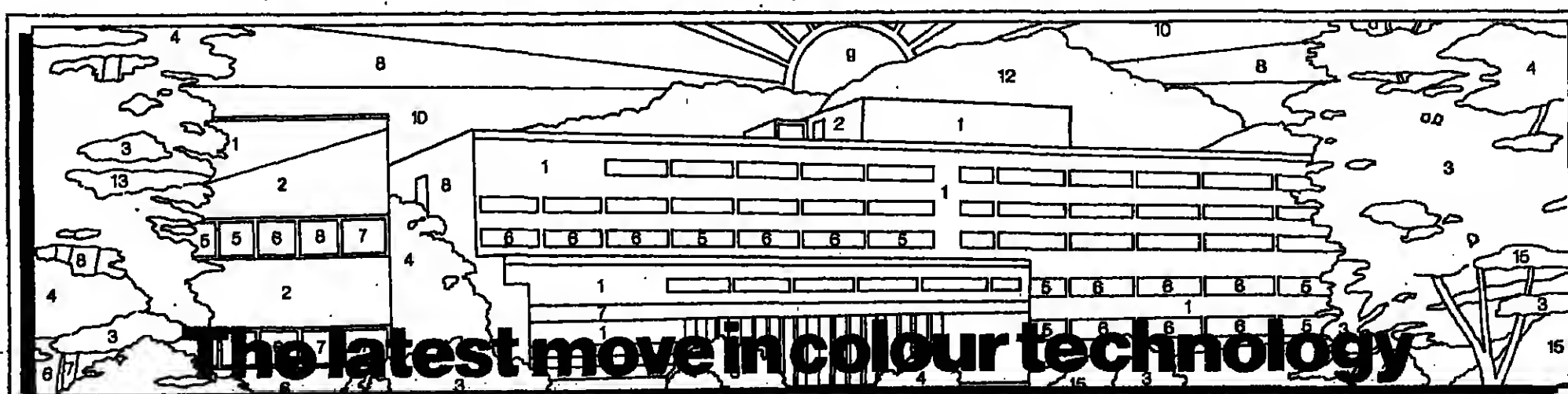
Computer Search and Selection, Hamilton House, Merlowes, Hemel Hempstead, Herts HP1 1BB.

Computer Search and Selection, 6th Floor, Carolyn House, Dingwall Road, Croydon, Surrey CR0 9XR

Computer Search & Selection

Software Engineers...

c. £10,000-£15,000 (or more)



The latest move in colour technology

...It's all here in black and white

For a Software Engineer like yourself, our imminent move to Hemel Hempstead represents a unique opportunity - research facilities second to none, challenging projects and outstanding career development prospects.

A British company with an enviable success record in high resolution colour graphic systems and advanced data/satellite communications products, ours is a fast moving commercial environment, totally committed to software research and

development. A commitment backed by the fact that no less than 20% of our current manpower is directly involved in R & D.

Your specific experience is not as important as your future potential. What we're looking for is a flair for technical software design and programming, a sound knowledge of Assembler and high level real-time languages, and ideally, exposure to DEC environments.

We hope that we've coloured in the picture a little, now we'd like to talk to you and add some depth. Call Beverly Dawson on 01-272 0841 during office hours (or leave a message on our answerphone), she'll arrange for one of our technical people to call you back - either at home or work - and have a more detailed chat about what the future could hold.

Alternatively write for our information package enclosing a brief CV to: Stephen Smith, Resourcing Manager, Crosfield Electronics Ltd., Holloway Road, London N19 3JG.

Stop Press

More than just Software! Because we're expanding the whole R & D team, we'll shortly be looking for Hardware Design Engineers, Electronics Project Managers, CAD Draughtsmen and Engineering Estimators.

Britain's most colourful electronics company

Crosfield Electronics

SENIOR APPTS-£14K

Advanced Electronic Systems SOFTWARE ENGINEERING to c.£16K + package + car Home Counties

This prominent US electronic systems company renowned for pioneering products is currently experiencing unprecedented expansion in the UK and throughout Europe. To support this exciting growth phase, opportunities have been created for engineers with real-time software experience and good customer orientation to contribute to the Applications support of their advanced high-valued systems.

The ideal candidates will be:-

- Aged 23 to 35
- Qualified to BSc level in electronics or computing
- Experienced in Real-Time Software within an engineering/industrial environment
- Conversant with high level structured language (eg. Pascal)

After intensive product training in both the USA and Europe the responsibility would be to support an interesting and varied customer base in the engineering application of the companies sophisticated and high-valued systems. The benefits include an excellent salary, fully maintained company car, bonus and a comprehensive relocation package where necessary.

For an initial and confidential discussion please call Dub Rae on Newbury (0635) 33445 quoting reference A/144 or write in strict confidence to:-

ARCHIBOLD RAE CONSULTANTS LIMITED
(High Technology Search and Selection)
7, London Road, Newbury, Berkshire RG13 0UL
Tel: Newbury (0635) 33445.

ARc

6307

OPERATIONS MANAGER SOFTWARE/HARDWARE DESIGN £14,000-£18,000 PER ANNUM

Intelligent Software are designers of high-quality microcomputer software and products such as the Elen Enterprise Computer, the Milton Bradley Chess Robot, the Bizek Electronic Note Pad and the World Champion Chess Machine.

The company is seeking a highly-proficient engineer, with a background in electronics or microcomputing, to provide overall management and support for on-going projects of the company.

The successful candidate must be able to work closely in a creative atmosphere with extremely talented engineers and programmers.

The job is based in central London, and the salary is negotiable within a likely range of £14,000-£18,000 a year.

Please write, enclosing cv, to:

INTELLIGENT SOFTWARE LTD. (REF. OM)
21 STORE STREET, LONDON WC1E 6DH

6328

CUSTOMER SUPPORT MANAGER SUPPORT CONSULTANTS

Height Systems Ltd. (H.S.L.) is a successful and expanding international systems house, specialising in software capable of dealing with today's financial and business problems.

Their most successful "INSIGHT" which has two main features, the first "Financial Modelling and Reporting System" and the second, "Financial Ledger System," has proved such a success with leading companies throughout Europe, that they are now expanding their London operations.

Due to this expansion program, H.S.L. now have positions vacant for a Customer Support Manager and a Support Consultant.

Customer Support Manager

The successful applicant for this position should be aged between 25 and 28 years and be a qualified accountant with experience in some of the following areas: Systems analysis, product support, pre- and post-sales and opening experience on IBM system 34/38. The successful applicant must also be highly motivated and capable of running a well-organised team of Support Consultants, as well as being able to deal with senior management and software users at all levels. Salary and benefits commensurate with experience, but is not a limiting factor.

Support Consultant

Applicants for this position should ideally be aged between 21 and 25 and should be a part-qualified accountant. The applicant ideally must have a background in the support of accounting and business software and have some knowledge of IBM system 34/38 hardware plus a desire to grow within an expanding organisation. Salary and benefits commensurate with experience, but is not a limiting factor.

For further details telephone Steven Knowles-Baker on 01-370 2021/3, or alternatively send a cv, to him at N.K.B. Associates Ltd., 158 Gloucester Road, London SW7 4TH. All enquiries will be treated with the strictest confidence.

The Computer Specialists...
Placing Computer Specialists

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N.K.B. Associates Limited
158 Gloucester Road
London SW7 4TH
Telephone: 01-370 2021/3

Associates Limited.

6184

CORD DESIGNS LIMITED SALES EXECUTIVES

We are seeking high-calibre, energetic Sales staff in both the Technical and the Commercial Divisions of the company. Sales Executives with a proven track record and a good knowledge of the software service industry are invited to join in the success of this rapidly expanding systems company.

The company operates on a divisional basis, each of which has a market speciality, ranging from technical and scientific software to commercial project development.

LOCATIONS LONDON MANCHESTER STAINES

Based at one of our operating offices, you will be responsible for the expansion of our client base. In addition, you will be expected to provide a support service to our current clients - many of whom are prestigious household names.

ON TARGET EARNINGS - £20,000 p.a.

The package being offered includes on target earnings of £20,000, private health care, pension scheme and company car. However, the successful candidates will be expected to achieve earnings well in excess of these figures.

If you wish to realise your potential by working with a young, innovative systems company, then call Margot Thorpe on 01-409 1244 or Geoff Dongworth on Staines (0784) 63911.

CORD DESIGNS LIMITED
Cord House, The Causeway
Staines, Middlesex TW18 3AX

63371

SOFTWARE DESIGN MANAGER

c.£15,000 p.a. plus profit share

Our client, Froude Consine Ltd of Worcester, is a £m20 world leader in the field of high technology/computer controlled engine and vehicle testing. Current worldwide projects range from computerised production line diagnostics to multi-million pound computer controlled testing facilities.

They now seek to appoint a top-flight manager who will be responsible, with a team of twelve, for:

- ★ the large amount of contract software now being required to control these advanced facilities
- ★ the design and development of standard and new software products

The successful candidate will:

- ★ be familiar with DEC systems, especially those LS11/23 based, running RSX or RT11
- ★ have some knowledge of MACRO 11 assembler
- ★ probably be a graduate aged 28-37

The post has high technical interest, deep involvement with multi-disciplinary teams, international travel (average two weeks duration) and customer contact. It will therefore hold most appeal for an ambitious manager who will be able to seize the opportunity to make a real contribution to the future direction of the company. Promotional prospects for such a person are outstanding.

A generous relocation package is available where applicable.

Applicants, of either sex, are invited to respond by handwritten letter and a full cv to Trevor Lee, MD of EPI, who is advising on this key appointment.



E.P.I. CONSULTANTS
70 Eccleston Square, London SW1V 1PJ

Logitix

Logitix Recruitment Limited

10 Grenville Place, London SW7 4RW

Telephone 01-373 3063

H/W Engineering Supervisor Nottingham: Salaries to £10K

A Networking Systems Distributor requires a Hardware Engineering Supervisor for a key role within its rapidly expanding Operations Department. The successful candidate, aged 25-45 years should have completed an engineering apprenticeship and have a minimum of 3 years hardware experience with mini or microcomputers preferably in a development or service role. Your current or recent background should include two or more of:- Quality assurance and control,

CAD/CAM or NC products, UNIX or CP-M based systems data communications and protocols, hardware/software interfacing. Candidates will lead an established small project team and be responsible for the co-ordination and supervision of Hardware Systems Engineers. Man-management skills and the ability to work to exacting product delivery dates are of great importance. You will also be required to travel to clients' sites within the U.K. Ref: L/44/A

D.E.C. Comms Systems London & E.E.C.: Salaries to £16K

Our client, a major supplier of D.E.C. based turnkey systems, has a number of vacancies for Communications Software Engineers to join either its London or Dutch-based operations. Suitable applicants will, preferably, have two or more years programming experience in a distributed processing environment where proprietary networking systems

such as DECNET have been utilised. Applications are, however, sought from those with fluency in MACRO 11, RTL/2 or Intel Assembler, irrespective of the environment in which these skills have been gained. Of particular interest will be candidates who have been engaged on the development of interface software. Ref: L/44/B

UNIX Applications Engineers

London and Midlands: Salaries to £11K

A highly respected supplier of UNIX based Microcomputers Systems and Networks is currently seeking to recruit a number of exceptional Applications Engineers for its London (City) and Midlands based operations. Applicants, aged 25-40 years should be qualified in HND level or degree and/or have a minimum of 3 years relevant practical experience in a UNIX, CP/M or financial accounting environment. Your programming background must include fluency in two or more of C, PASCAL, FORTRAN, COBOL or Business BASIC. Those candidates fully familiar with U.K. accounting practice and also having a current background in financial or systems analysis are especially encouraged to apply. It would be advantageous if applicants had used or implemented a relational database (e.g. ORACLE, INFORMICS or RAPPORT) in a business environment. Since all positions entail a significant degree of client contact in the form of product demonstrations, seminars and on-site client training, our clients value well developed interpersonal skills. Additionally, candidates will be expected to visit clients' sites in a pre or post-sale support role. A willingness to travel within the U.K. as and when necessary is therefore of paramount importance. Our clients offer a competitive salary, generous Company benefits, and outstanding career prospects. Individuals who feel that they meet the specification outlined should either forward a well documented resume or, alternatively, telephone one of our Consultants quoting Ref: LJS/B.

Real-time Analysts & Progs.

Hants/Berks: Salaries to £12K

Real-time Analysts and Programmers, with at least 2 years post graduate industrial experience, are urgently sought by a leading software consultancy. The broad range of projects they undertake, ranging from advanced defence systems through to office automation products, guarantee a varied and stimulating working environment. Your software skills should include substantial real-time programming in a block-structured language and an Assembler, combined with a knowledge of the utilities offered by operating systems such as RSN, VMS or UNIX. For those applicants with man-management experience, or potential, rapid promotion is highly likely. Ref: L/44/C

Process Control Systems

London: Salaries to £15K

A leading U.K. Systems and Software House is currently seeking Programmers, Designers and Consultants for its London-based industrial division. All applicants should hold a numerate degree and be fluent in an Assembler and a high-level block-structured language. There is a strong preference for candidates who are familiar with PDP 11, VAX11/780 or

HP 3000 hardware, but candidates who have real-time software development experience on other mini-computers should not be deterred from applying. For the positions of Designer and Consultant, it is anticipated that you will have a background in process control applications, particularly within food, drugs or energy industries. Ref: L/44/D

CORAL 66 Programmers

S. Home Counties: Salaries to £11K

Applications Programmers and Designers are currently required by the software development division of a leading Systems Supplier. Suitable applicants should offer a minimum of eighteen months CORAL 66 programming experience in a real-time mini-computer or micro-processor environment. Particular hardware experience is not

important, but familiarity with PDP/11, VAX, Ferranti Argus or the GEC 4000 series would be a distinct advantage. Our client offers an excellent training programme and there will be every opportunity for successful applicants to learn new skills and progress into either a Management or Consultancy role. Ref: L/44/E

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COMPUTER SALES PROFESSIONALS...

Ensure your prosperity in 1984 - expand with

Microdata Information Systems Limited

in Newcastle, Wakefield, Manchester, Birmingham, North East Home Counties, Bristol, London, Dublin, and Government Sales Branches

Account Managers

Basic Salary £10,500-£14,000

Guarantee To £20,000+

Target Earnings £27,000, a number earn well over £35,000

Quality Company Car

Continued development, substantial backing and a progressive management style make our client Microdata Information Systems an exciting prospect.

Controlled growth has been at the rate of over 30% per annum for the last 3 years. 1984 will see considerable further expansion due to the enormous success of their powerful range of 16 and 32 bit computers, super-minis and DDP products.

To consolidate on this success, a number of additional highly skilled Computer Sales Professionals are required to further expand their sales team to enter 1984.

If you have a minimum of 3 successful years selling either Mainframes or Minis in any of the following specific key areas, they will want to talk to YOU:

- ★ Accounting/Financial
- ★ Manufacturing/Production
- ★ Local Government
- ★ "Blue Chip" Companies
- ★ International Corporations

Well Educated and Successful in Computer Sales? Aged 25-40? Ambitious?

ACT NOW! For a serious and totally confidential discussion, telephone 061-236 1157 during business hours. Or evenings and weekends until 9 p.m. telephone

JEFF WALTON: 061-962 0002 ROY TORRES: Halifax (0422) 823153

INTERFACE
RECRUITMENT & SELECTION CONSULTANTS LTD.

Manchester House, 86 Princess Street,
Manchester M1 6NG. Tel: 061-236 1157.

RPG II/III

IBM SYSTEM 34
CITY £13,000

An opportunity exists within a prestigious international bank for a capable and experienced Analyst/Programmer. The bank will shortly be installing the Midas package with other projects currently underway. So if you want to join a highly successful and multi-million pound D.P. professional team why not give me a call: IBM System 34-RPG II experience essential. A full banking package is offered including a subsidised mortgage. REF: GW5440

SURREY/ESSEX/LONDON/KENT/HERKS/ MIDDLESEX/HERTS/BUCKS/BEDS
To £14,000

Never before have there been so many opportunities for people whose experience is gained largely or exclusively on GSD machines. Insurance companies, software houses, household names, banks and many others offering to financially interesting, challenging and viable career openings to those experienced in IBM System 34-360 series with RPG II or RPG III. The salaries vary, but will be commensurate with your background. If you are looking for a new opportunity telephone now to discuss your career history and requirements, and let me tell you about the job that will suit you. REF: GW5760

IBM SYSTEM 38/RPG III
HERTS £10-£13,000

A major multi-national eleven city group based in Herts require a Senior Analyst/Programmer to develop and maintain a D.P. package for manufacturing applications. The main requirements are a self-motivated individual with a minimum of 12 months' IBM System 38/RPG III, to work with a small team of D.P. professionals and be well versed in terms of conditions and salary. REF: GW5859

IBM SYSTEM 38
LONDON/MIDDLESEX BORDERS
To £13,500

Work locally for an expanding, established management finance company. Thriving an IBM System 38/360 require 18 months' + REF III experience with analytical capabilities. A mature outlook is essential along with the ability to fit in with a friendly team, and take responsibility for a large financial report. Superb offers and excellent financial rewards. REF: GW5245

IBM
OPPORTUNITIESCOBOL PROGRAMMERS
£9-£10,500

Have you 10 years' experience, preferably on IBM hardware? Would you like to work on development of a brand new package? To strengthen their team, our client requires a programmer with 10 years' DOS/VSE experience. Knowledge of CICS or other on-line systems an added advantage as is experience in ASSEMBLER. Normal range of fringe benefits associated with a large company and nice career prospects. REF: EW2867

SYSTEM ANALYSTS
PROGRAMMERS
BUCKS To £13,000

Outstanding opportunity for Systems Analysts or good Analysts/Programmers to utilise their technical skills. You should have four to five years' D.P. experience in a large commercial environment. The company run on IBM 4331, VM/CMS, VSAM & COBOL, so some knowledge of these skills is essential. The programming positions are at all levels, from 12 months' + IBM COBOL. Package includes free BUPA, excellent leisure facilities and relocation costs. REF: EW28253

BANKING BENEFITS IBM COBOL
To £11,500

London-based international bank with a firm commitment to on-line development, requires IBM COBOL programmers with at least six months' CICS experience, to assist in the support and development of banking projects. Great team atmosphere and full perks including subsidised mortgage after three months. REF: CW1559

COBOL OR ASSEMBLER
CITY £9-£13,500

My client is a City-based financial services organisation running IBM 4341s under DOS/VSE with CICS. They are seeking a programmer and a senior analyst/programmer, with sound IBM experience, and a lively personality to fit into their energetic team supporting and developing a range of new financial facilities using CICS. For the programmer, 18 months' + IBM ASSEMBLER or COBOL is required, preferably with some financial experience, and for the senior, around three to four years' experience, with the ability to progress to a management role in the future. REF: CW2762

SYSTEMS PROGRAMMER
HERTS To £12,000 + mortgage

If you have four years' D.P. experience of which two have been in systems programming and would like a demanding and challenging position, our client has the ability to provide the opportunities you need. They require a new member to complement their team, with knowledge of either VSAM, VSAM, C, R, S or other on-line systems. The work will allow you to gain experience in VSAM, DPL over the course of years so familiarity with either will be a distinct advantage. The company offer generous mortgage assistance after an initial probationary period, free lunch, free bus fares and an excellent pension scheme. REF: BW2755

IBM ALL LEVELS
£8-£13,000

Three London-based software houses urgently need your IBM expertise. They are seeking all levels of people from 12 months' experience of IBM COBOL, but you must be able to offer some experience of either CICS work or databases, i.e. DB/1, TOTAL, IDMS, IMS, plus the personality and initiative to work on new development projects and schedules. Prospects are excellent and the variety of work covers all aspects of computing. REF: CUGEN

ANALYST PROGRAMMER
CICS TRAINING
£9-£11,000

My client has two openings for Analyst/Programmers with good PL/1 or COBOL programming. If you have a proven track record with at least one project from feasibility through to implementation, and would like to work on new development projects and receive training in CICS this could be your next career move. Ideally candidates will have two years' experience in DOS/VSE installation or a knowledge of VSAM or VM and would be able to work on new development projects and schedules. Prospects are excellent and the variety of work covers all aspects of computing. REF: CUGEN

IBM DEKSHIRE
£9,500

Programmer urgently required for this retail organisation, utilising IBM 4341s for production, and IBM 3081s for development, 18 months' + IBM COBOL required together with some of the following: DOS/VSE, VSAM/CMS, VSAM, CICS, MAN/IS or DB/1. Benefits include paid overtime, free BUPA and relocation. REF: CW2841

OTHERS

BURNINGHAM SENIOR
LONDON £11,500

This highly successful international company are moving applications from programmers with several years' experience on Burningham medium to large mainframes. The essential requirements are good COBOL with recent on-line and database experience, a dedication to a high standard of professionalism, and the desire to join a company where your long-term career prospects are assured. In return they offer a luxurious working environment, sub rent, BUPA, bonus scheme, an excellent salary plus full relocation costs where necessary. REF: MW2929

DEC/VAX - BASIC +
£10,500

My client, the London-based division of a major computer hardware organisation, is expanding and is seeking to recruit DEC/VAX experts within a BASIC + environment. You will be working within medium sized teams, developing commercial systems to a high standard. It is hoped that within six months the successful applicant will be developing systems from initial user contact through to implementation. Training will be given where necessary. REF: AW1016

PROGRAMMER
ENEG

This manufacturing company situated on the Herts/Beds borders is currently offering an excellent career step for those seeking to be at the forefront of new applications. The essential requirement is for someone experienced with ICL equipment preferably with exposure to VME and IDMS TPS. This is an interesting and challenging position, with good salary and career prospects. REF: DW2918

DATA GENERAL
£14,000

Due to continued expansion this London-based software house is looking to recruit a top class programmer with 18 months' + Data General Business Basic experience. A first class career move as the work is 99% development, involving numerous applications and offers the opportunity to gain experience on several different machines. If you fit these requirements and would like to secure a responsible role with a go-ahead company please contact us for further details. REF: MW2743

HEWLETT PACKARD - COBOL
£10,500

A minimum of six months' HEP/COBOL is sought by this international company based on the Herts/Beds borders. Training is being offered in analysis, but it is hoped that you will be familiar with IMAGE, VIEW and/or QUERY. Development of a major new system is underway and there are many more planned for the future. If you would like to become part of this small but efficient team call me now for more details. REF: AW2369

ICL ME29
CITY To £12,500

This is an excellent opportunity for a D.P. professional to take up a key position within this well established business company. The company have 2 x 1 M.E.29 running under ICL. Applicants should have a minimum of 18 months' D.P. on-line experience, with extensive experience in TPS. You will play an integral part in system training and design and implementation of a range of insurance and business systems. This is an interesting position offering career prospects, in-house education, exciting development projects, and a pleasant and flexible working environment. Excellent package including subsidised lunches and four weeks' holiday. REF: DW2752

UNIVAC PROGRAMMER
£11,000 + subs mort

An opportunity has arisen for experienced UNIVAC programmers to join an expanding installation where their excellent database and on-line experience will be fully utilised and rewarded. The UNIVAC mainframe supports a network service to 13 remote sites and 150 terminals. All development work is centred around the creation, maintenance and use of on-line systems performing real-time updating to database files. You will be working with a group of computer professionals who have a proven record of database system development success. In addition to an excellent salary you will have free health insurance, excellent company benefits including subsidised mortgage. REF: MW2836

HEWLETT PACKARD - COBOL
To £12,000

As an Analyst/Programmer within this City based distribution company you will be developing new financial and commercial systems from initial user contact stage through to implementation. The successful applicant must have a minimum of two years' D.P. experience and have an in-depth knowledge of HP IBM, COBOL, IMAGE, CICS, VME and QUERY. Promotion prospects are excellent and it is anticipated that he/she will be able to act as a relief D.P. when necessary. REF: AW2792

HONEYWELL COBOL
LONDON To £11,000 + subs mort

My client is among the most successful in its field and due to expansion is looking to recruit additional numbers of staff. The essential requirements are for 18 months' + COBOL, and/or SCRP/NWRIT experience. This is a unique opportunity to utilise your skills within a HPS installation and to move into an extremely interesting position which will involve lots of development work. They are offering a competitive salary supported by a substantial range of fringe benefits associated with a major company. If you are interested in an exciting and challenging career and are seeking opportunity and responsibility, call now for further details. REF: MW2568

WANG ALL LEVELS
To £16,000 + Co. Car

My client is a very prestigious and profitable organisation based on the West London/Herts borders. Due to company expansion they now have requirements for Wang programmers at all levels with good knowledge of COBOL, or BASIC, and possibly ASSEMBLER. They also require a senior programmer/analyst with good communication skills, to eventually take charge of the application side of the department, and the development of new systems. Full career travel is also envisaged. Although WANG experience is not essential for this post the ideal candidate will already have proved himself in a progressive commercial environment and will now be looking to take a step up the ladder. REF: MW2915

HEWLETT PACKARD - SENIORS
To £15,000 + Relocation

My client is a City-based client, one based in London and one in Berlin, seeking Project Leaders. Both positions entail leading close-knit teams who work to extremely high standards, both in commercial and financial environments. For both you must display a thorough knowledge of HP 3000, and hopefully have a COBOL background and supervisory experience. There are excellent prospects for progression into management positions in the near future. Both companies give an excellent package which may include BUPA, £250 per year L.V.s, and relocation assistance. REF: AW22678

ICL 2900 SYSTEMS
SURREY £9,500 + Mort

This Surrey-based insurance concern currently in the process of developing new systems are offering interesting and challenging work to programmers and analysts/programmers who can offer 18 months' + ICL COBOL. Experience of VME would be desirable and will be rewarded accordingly. Full training is offered in database techniques, TP systems and aspects of systems design. This is an excellent opportunity to gain varied and practical experience whilst pursuing a worthwhile career. Company benefits include four weeks' holiday, subsidised restaurant and pension scheme. DW1739

Ministry of Defence

Computer Specialists

There are currently the following opportunities:
Royal Naval Engineering College, Manulou, Plymouth
Applications Programmer

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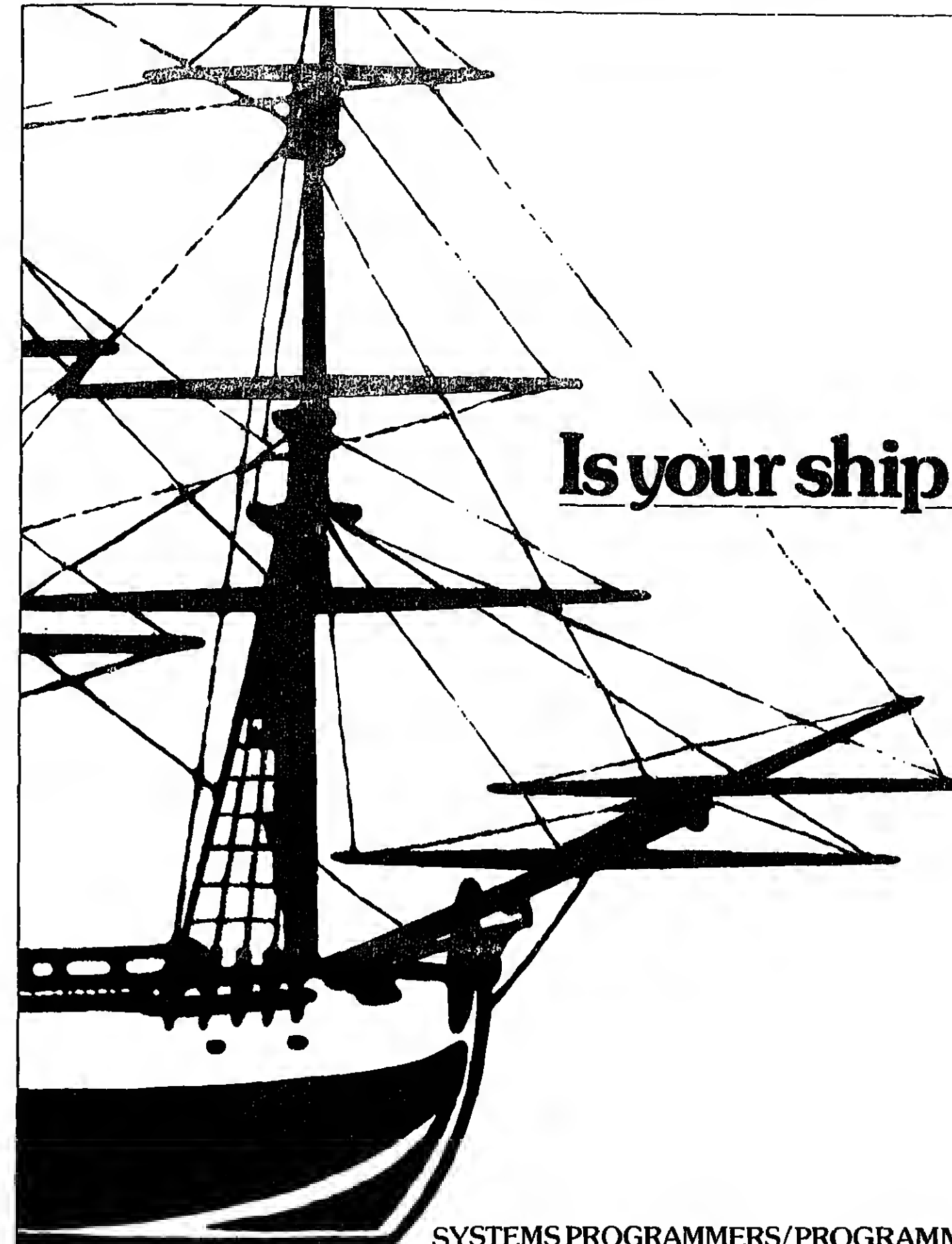
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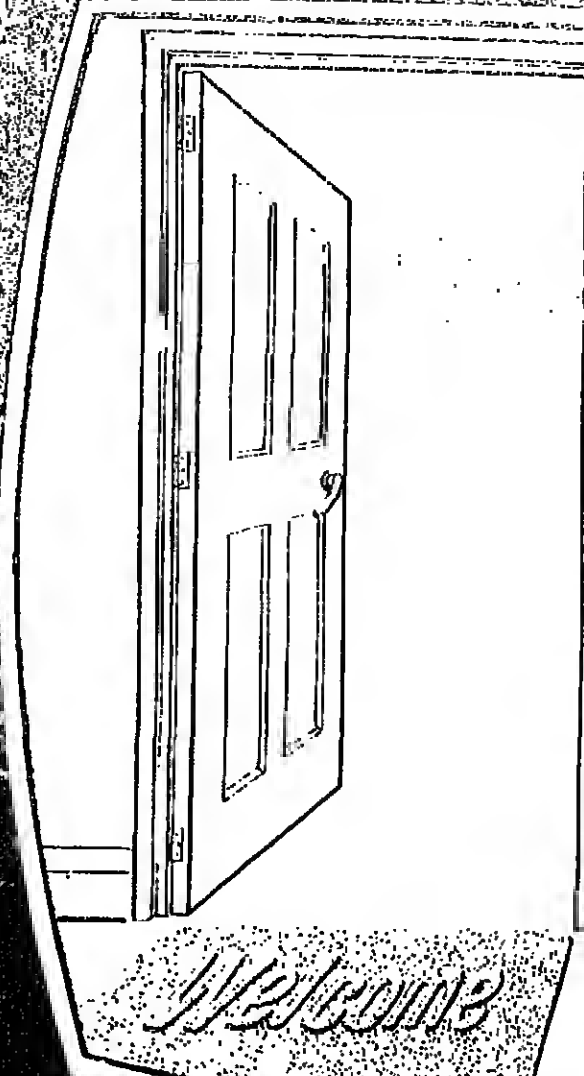
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We would welcome the opportunity to discuss career prospects with you on behalf of our client. If you have experience gained in a real-time programming environment using assembler and at least one block-structured programming language you will find the project work being undertaken by our client to be stimulating and rewarding. The company is determined to maintain a leading position in its field and, therefore, would be happy to meet people who are innovative and ready to contribute new ideas. The current product range includes systems based on Intel 8088 and Motorola 6800 microprocessors. Any relevant experience on these families of processors would be useful but primarily we wish to hear from people who believe they can make a contribution in real-time applications. For the manager and team leader positions we would wish to see previous experience of leadership and supervisory skills and a knowledge of project control procedures. Our client is an independent subsidiary of a large engineering group. The full benefits package includes relocation assistance where appropriate.

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(B241)



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Application forms and job descriptions from the Personnel Division, Room 1, Brent Town Hall Annex, Forty Lane, Wembley, Middlesex HA9 8ER, returnable November 16th, 1983, (telephone 01-903 0371 (24-hour Answering Service)). Reference number F330 must be quoted.

London Borough of
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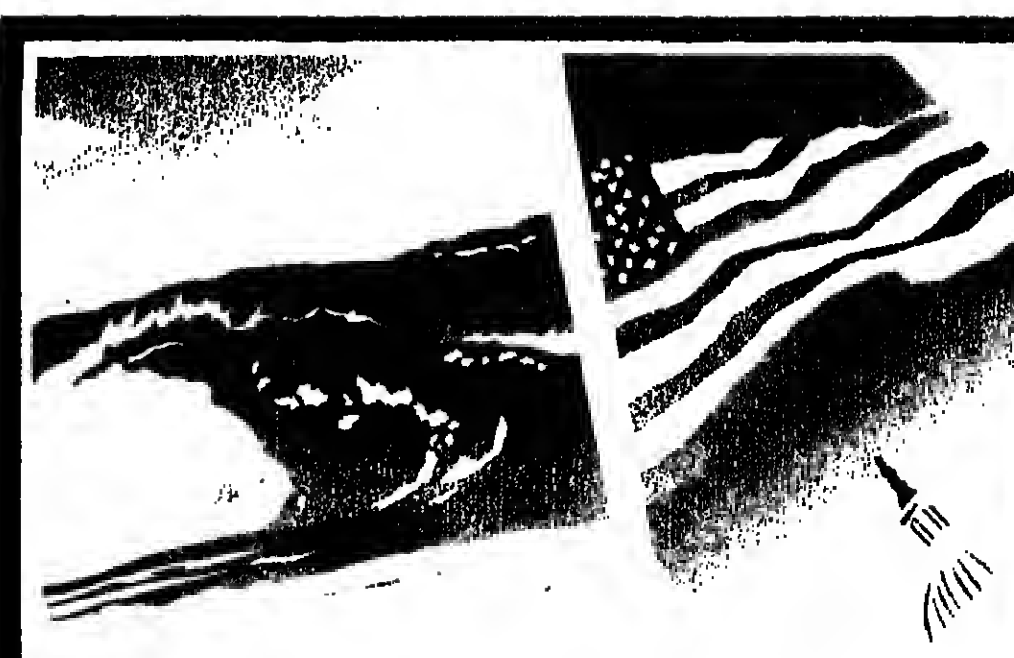
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(617)



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LAN PROJECT LEADER

BERKSHIRE to £14,000
A leading computer manufacturer currently developing Local Area Networks seeks a Project Leader to lead a small team. Ideally candidates will have communications design experience in PASCAL or, if possible C for 68000/UNIX products. REF: CW 43/1

COMMUNICATIONS SPECIALISTS

LONDON to £17,000
One of Britain's leading Information Systems contractors have a number of openings for Consultants with a minimum of 8 years experience, primarily in an Information Processing environment. Typically experience should include knowledge of Telecommunications Industry Systems Design, Marketing Activities x 25,150 Standards and Office Automation. REF: CW 43/2

ACCOUNT MANAGER

BERKSHIRE to £18,000
The Computer + Communications sectors of a leading software company require a Manager to sell/market the company's services and to Manage their financial/Contractual side of appropriate projects. Technically candidates should have experience of IBM/ICL communications, X25 and Project Management plus selling LANS marketing experience are added requirements. REF: CW 43/3

S. IRELAND

PASCAL/C to £14,000
European division of a Major American Corporation based in the south of Ireland is developing microprocessor-based office automation systems based M68000 under UNIX and C. Candidates should have worked with PASCAL or C with exposure to Assembler, desirable operating experience should include one of VMS, RSX, TOPS-20, UNIX, CP/M or MS/DOS. REF: CW 43/4

X 25/LANS

HERTS/BEDS £9,000-£13,500
A Computer manufacturer offers a choice of location near M1 motorway to experienced programmers. The successful candidate will work on the design and implementation of communications software projects. A graduate with five years experience some of which should have been in communications (preferably X25 or LANS based) should apply. REF: CW 43/5

BANKING NETWORKS

LONDON to £10,500 + BENEFITS
Major international bank developing Local Areas Networks using UNIX and C require young software programmers to assist this development. Candidates should have a degree plus experience of a block-based language ie: PASCAL or preferably C. Short-term overseas travel is likely for the successful candidates. REF: CW 43/6

HOLLAND

PLM to D.SL 80,000 + CAR.
A Dutch-based consultancy require Programmer/Designers to develop interface software for a 16-bit machine and an Intel 8086. Applications include emulating IBM Protocols, File Handling and Business Graphics etc. Candidates should have some experience of PLM, PL/1, Assembler and 780 Assembler. REF: CW 43/7

C/UNIX

SURREY up to £15,000
A relatively new communications company set up to develop Local Area Networks Software Products require young programmers with communications experience. Candidates requiring experience of C/UNIX will get an early opportunity to develop these skills. Graduates with real-time experience using PASCAL or similar should apply. REF: CW 43/8

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A senior software engineer is required to take responsibility as Software Task Engineer in a multidisciplinary R & D team and may be responsible for a number of Software Engineers. Several years experience of Aerospace applications in a real time environment and a knowledge of ASSEMBLER/Modern High level language is desired. REF: CW 43/9

NAVIGATION SYSTEMS

SURREY to £16,000
One of Britain's leading information systems contractors is seeking a consultant to work on Navigational Systems in marine and aircraft systems. Ideally the successful candidate will have a numerate degree plus five years' experience in the design and assessment of digital systems for inertial navigation, integrated navigation, radio and satellite. REF: CW 43/10

IMAGE PROCESSING

NORTH LONDON £9,000-£10,000
A highly respected manufacturer of image processing systems requires additional Software Engineers to work on digital processing systems. You should have had at least one year postgraduate industrial experience and have programmed in Assembler during this period. Creative flair, committed interest and the willingness to succeed will result in extensive opportunities for career advancement. REF: CW 43/11

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LONDON £11,000-£17,000
The Industrial Group of a leading Software Company seeks Consultants and Designers to develop process control software for the food, drink and drug industries. Candidates dependent on level of experience will be offered a number of positions such as supervising projects, developing software on large projects, assisting teams in technical support roles and producing specifications. REF: CW 43/12

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MIDDLESEX R & D ENGINEERS
A major defence contractor requires Research & Development Engineers to design modern Military Radar and Electronic Warfare systems, in particular signal processing systems. Candidates should have 2 to 3 years DEC and MACRO-11 experience on real time military systems. REF: CW 43/13

REAL TIME FORTRAN

MIDDLESEX to £11,000
Our client is currently developing an emergencies services system based on Data General equipment. Candidates should have Fortran experience on real time applications, ideally using DG equipment and Command & Control systems. REF: CW 43/14

CORAL/MASCOT

LONDON Up To £15,000
A top consultancy, commanding large contracts with the MoD require Professional Programmers and Software Designers to work on Real Time Defence Systems. Candidates should have a degree plus experience of CORAL and preferably MASCOT. Experience of CONTEXT and VAX machines would be helpful. Successful candidates' careers will benefit enormously by being associated with one of the top names in the industry. Ref: CW 43/15
The above appointments represent a selection of the vacancies that we are currently seeking people on behalf of our clients in the Hi-Tech areas. All these appointments involve permanent positions. In the first instance please send us a copy of your CV. (Alternatively telephone for an application form) so we may discuss your application in confidence on behalf of yourself and our clients.

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A further requirement will be the ability to contribute as a COBOL applications analyst/programmer, at a senior level. If you can offer the wide range of technical and inter-personal skills needed for this position, please contact Joan Ainsworth on 01-681 8311 or write to her at Computer Search & Selection Ltd., 6th Floor, Carolyn House, Dingwall Road, Croydon, Surrey, CR0 9XF.

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Our Project Group undertakes fixed price projects on our own in-house hardware IBM System 34 and IBM System 38 and Hewlett Packard 3000.

Project Leader & Programmers - HP3000

We wish to recruit a Project Leader and several experienced HP3000 COBOL Programmers to form a new project team who will be starting a major new project in the immediate future. Experience with MM3000 is essential, a knowledge of IMAGE, QUERY and VIEW is desirable.

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Our growing Products Division markets and supports the Global ACCOUNTING IV range of accounting products for IBM mainframe computers and the Global CONTROL/38 range of account products for the IBM System 38 and, with the impending arrival of our HP3000, we anticipate offering a range of products to complement this hardware. Current expansion requires that we recruit the following people:

Analyst Programmers - HP3000 - Insurance

We are seeking people with knowledge essentially of IMAGE MPE. Experience of SQL would be advantageous. Initial assignment would be in NEW YORK and subsequently in the UK.

Analyst Programmers - IBM Financial Packages

Our product range covers 34, 36, 38 mainframes. We are prepared to recruit and will consider IBM mainframe experience with CICS or IBM System 38. These positions will entail travel in the UK and possibly to the USA and Europe.

PROFESSIONAL SERVICES

The Division provides skilled consulting Systems and Programming staff to work on client locations in the UK, Europe and the M. East. Our consultants are of a mixed discipline, combining both permanent and contract staff. We are now wishing to expand our permanent technical staff and to hire the following people:

Programmer - Analyst HP3000

We are seeking a experienced HP3000 programmer with a good knowledge of either RAMP or IMACS to work on-site for a major client based in London.

Sales Account Executive - West London Area

We would like to recruit an ambitious Sales Executive to strengthen our current Sales team and assist us with our target of considerably expanding our market growth during 1984. Ideally we seek someone with experience in a similar environment, in financial services, and proven sales ability. We encourage the successful candidate to assume responsibility for the West London area and Western Home Counties.

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The company's Systems Division, which is responsible for applications and communications programming for a world-wide market, situated in the pleasant surrounds of Windsor, offers excellent working conditions in an informal yet highly professional team environment.

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This position involves the evolution, development and testing of new and existing programs, in addition to promotional and post-sales support. Whilst experience and versatility are important, the successful applicant must be willing to gain a detailed knowledge of the company's products and to specialise within the group's activities.

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Due to the increasing number of development projects, an additional writer is required by the technical publishing group within the Division.

The job entails liaising with programmers on specific projects with a view to providing accurate and readable User and Support documentation.

Please apply with curriculum vitae or telephone George Shaw on 01-549 9236 (24 hour answering service) for an application form.

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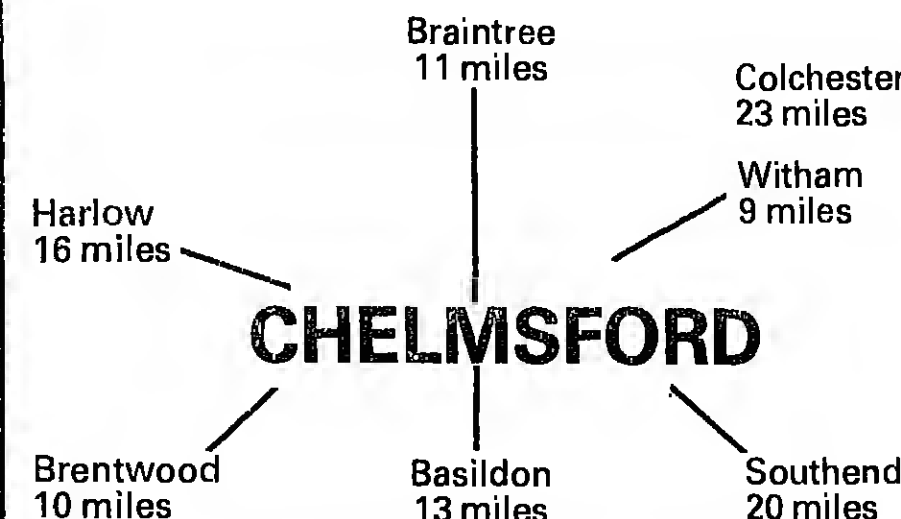
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Computer Weekly

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NOVEMBER 10

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AJK's contract register is 10 years old this month. Many thanks to all of you who are registered with AJK. For those who are not, please send your C.V. or telephone:

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If you have suitable academic/professional qualifications and relevant experience, please write in giving details to:

Mr B. J. Jones, W.I.S. Computer Systems Development, 30 Tynbydw Terrace, Treorchy, Mid. Glam., S. Wales.

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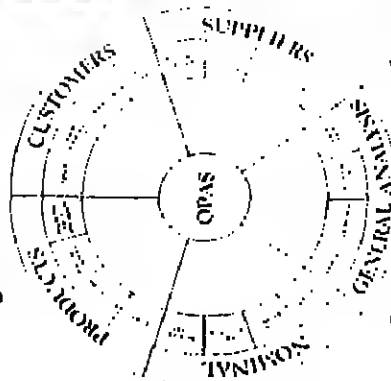
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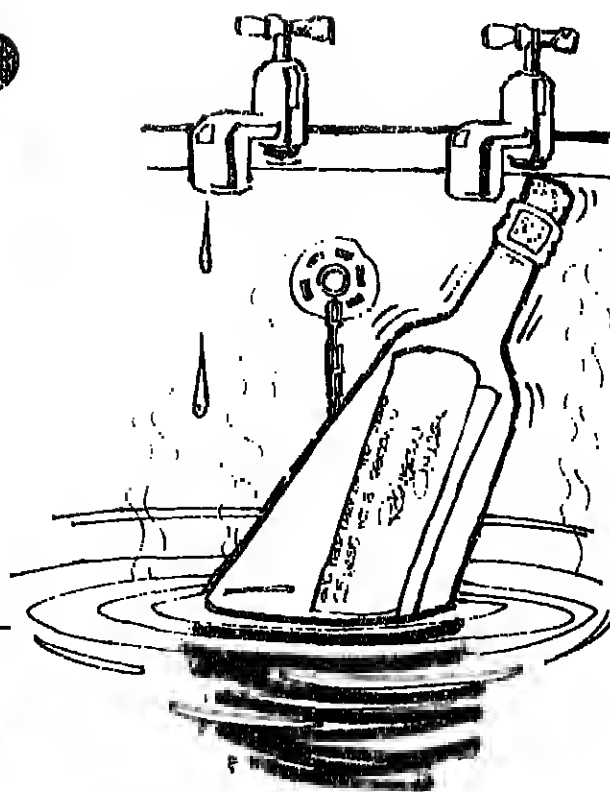
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N.H. Counties to £14,000
We would like to hear from candidates who can demonstrate an in-depth awareness of the application of micro processors to the solution of technical problems. As senior designers you will work with the minimum of supervision either alone or with a junior engineer on a variety of projects. Some programming expertise would be very useful.

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Manchester c£11,000
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BRITISH GAS

(6320)

Royal Military College of Science, Shrivenham Lecturer/Senior Lecturer Computing Science

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Person with 4-5 years' experience in DOS/VSE, CICS, VASM environment.

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3-4 years' experience in COBOL, DBMS, SMS, TDMS environment.

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REAL TIME
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MAJOR COMPANY MIDLANDS £8-£11,000

PROJECT LEADERS and ANALYST PROGRAMMERS are required by a Midland-based organisation. The project leaders are required to head development teams working on both manufacturing and financial systems and experience of building mini computer systems from conception to final implementation is desired. It is unlikely that anyone under the age of 24 would have the required experience. ANALYST/PROGRAMMERS are also required by the same organisation to work on their IBM mainframe equipment using both IMS/MVS and DL/I and CICS. Experience of at least one of these utilities, coupled with a minimum of two years' COBOL or PL/I programming is essential.

As one of the leading Recruitment Consultancies in the Midlands, we are constantly looking for experienced Analysts and Programmers for a number of top systems houses and commercial concerns. If you have substantial programming experience in mini or mainframe systems, and would like to test the market, please contact Kevin Young or Mike Layton in our Birmingham office on 021-622 2045.

Excellent salary plus benefits associated with one of the world's major Airlines Location: Gatwick, Sussex

Our client, "Airline of the Year", British Caledonian Airways is Britain's leading independent airline. They now wish to recruit a Systems Project Leader to join their Management Services Department at Gatwick. The appointment is an important one and is created by considerable expansion in the use of Management Services.

A wide range of important new on-line systems, mostly using database are contemplated and this development offers an interesting and challenging opportunity. The successful applicant will have about 10 years data processing experience and during this period will have gained significant knowledge of current IBM hardware and software. British Caledonian currently use IBM 4341's with DL1 and CICS/MANTIS and someone that has worked within this environment will be a particularly relevant candidate. The position will attract

someone who is currently working as a Senior Systems Analyst or as a Project Leader and has good experience of developing engineering or manufacturing systems. He or she will have controlled projects from the initial design stage to full implementation, will be used to dealing with users and will be able to control staff, both from a technical and an administrative point of view.

Our client is looking for enthusiasm, intelligence and the ability to get things done, in a most exciting and dynamic environment. If you would like to know more about the position please contact John Goldsmith, quoting Reference 415, on 01-631 4184 (day) or (Camberley) 21266 (evenings) or write with details to:- A&A Consultants (Holding) Ltd, County House, 10 Little Portland Street, London W1N 5DF.



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This opportunity will interest either

- ☐ **SYSTEMS ANALYSTS** with upwards of two years' analysis experience (the application background is not critical, as our clients will provide retraining where necessary), or
- ☐ **ANALYST/PROGRAMMERS** who wish to move to systems analysis work.

If you feel that a move to a major, up-market installation would help your career, please ring us in confidence for a talk, quoting ref. 191. If it is more convenient for you to ring outside office hours, your message will be recorded.



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If you would like further details on these U.S.A. contracts please contact JOAN LOVEJOY (telephone Hemel Hempstead (0442) 4076) or write to: Computer Search and Selection, Hamilton House, Marlowes, Hemel Hempstead, Herts.

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Candidates should have at least two years' relevant experience, ideally supporting PRIME software, although VME 2900 will also be considered. Hardware/software training will be provided as necessary.

The company is located in an attractive and easily accessible part of Cheshire, and a wide range of reasonably priced housing is available. Conditions of employment are excellent, and include a 37 hour week, flexitime, and over six weeks holidays a year.

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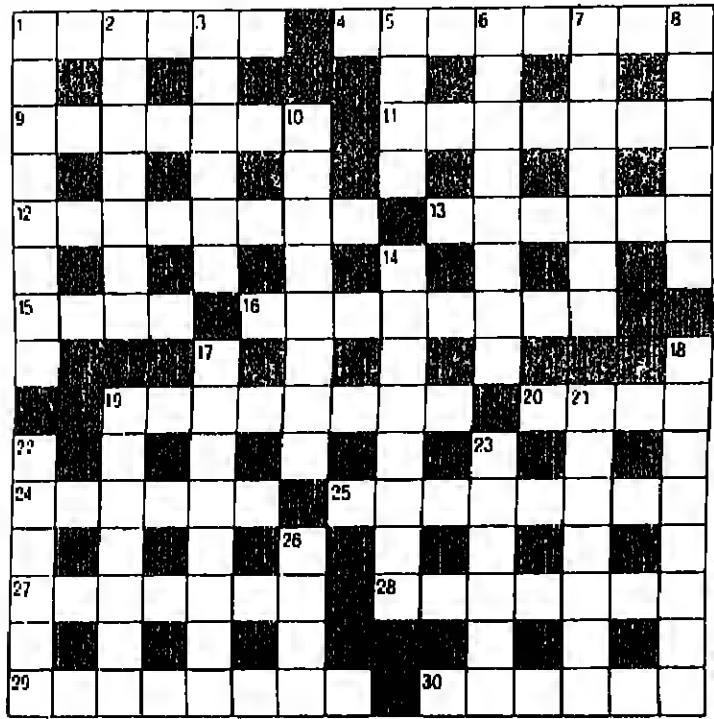
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CROSSWORD

Prize Crossword No 46

Compiled by Alec Rhins

A prize of £10 will be awarded for the first correct entry opened. The second and third solutions opened will receive £5 each. Entries to Crossword Competition, Computer Weekly, Quadrant House, The Quadrant, Sutton, Surrey SM2 5AS, by first post Friday, November 11. Please use a ballpoint to complete the crossword, and include a telephone number at which you can be reached during the daytime.



Name (Miss, Mrs, Ms, Mr)

Address

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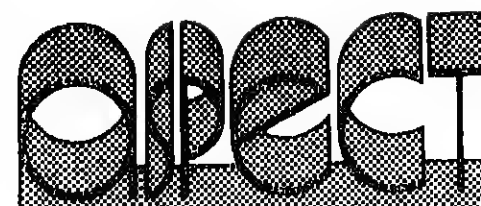
I accept the rules and conditions of the Computer Weekly Crossword Competition.

Signed Date

- ACROSS**
- 1 Jumped with back arched, getting cheered (6)
 - 4 A little bit of music produced by a whin (8)
 - 6 One who argues with society girl beside the Queen (7)
 - 11 Please tell about fish being damaged (7)
 - 12 Support the principal and the others (8)
 - 13 Plan made by soldiers pushed back in retreat (6)
 - 15, 16 In a ridiculous somebody, keep Ann out of dance (4,3,3,3)
 - 19, 20 Wrong ratings distributed in Aldershot, perhaps (8,4)
 - 24 Put me in the back - it makes more room for the bore (6)
 - 25 Plastic material man turned over in pit (8)
 - 27 Rather needy, or one in smart surroundings? (7)
 - 28 Lay on the ground, losing 2-1 at Wimbledon? (3,4)
 - 29 Aboard ship, left the wine with a pretentious air (4,4)
 - 30 Little Agnes is a monster! (6)
- DOWN**
- 1 Heaps, thin beaten boxers may finish in (3,5)
 - 2 Sailor grabbed by eccentric fellow where taxis wait (3-4)
 - 3 Complete Scriptural writings discovered in Ireland (6)
 - 5, 6 Achieve distinction and leave like steam? (4,2,3,3)
 - 7 It's stuck up in a hiding place of the enemy (7)
 - 8 Yen I obtained in a Chinese guild, trifling (6)
 - 10 Artist's inserted a mad monk (8)
 - 14 Titled lady one's met in pubs (8)
 - 17 Appalling rate rise for main channels of transport (8)
 - 18 One confined within limits in winter, needlessly (8)
 - 19 Girls' head, Dorothy, an alluring beauty (7)
 - 21 Portending evil, nothing less, when embracing love (7)
 - 22 Cause to stumble in climbing expedition? (4,2)
 - 23, 26 See domestic pet, let loose, drop in the byre (6-4)

RULES AND CONDITIONS

1. Each competitor may submit no more than one entry.
2. The competition is open to all readers of Computer Weekly with the exception of the staff of Business Press International Ltd, any printers employed by them or the near relatives of any staff.
3. The solution of each puzzle will normally be published in the issue three weeks after the puzzle has been published.
4. Winners will receive their prizes during the month following the competition.
5. The decision of the editor on the interpretation of the rules and conditions and on all matters shall be final. No correspondence will be entered into.



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IBM OPPORTUNITIES

SYSTEMS ANALYST CITY to £14,000 + MORT.
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PROGRAMMERS S. LONDON £11,000 + MORT.
This prestigious International Bank retains IBM 4300 hardware using COBOL CICS and DL/I. They are seeking two PROGRAMMERS to work initially on Foreign Exchange Systems. No banking experience is necessary as full training is given. For this excellent opportunity you need TWO YEARS' IBM COBOL with some exposure to CICS.

PL/1 PROGRAMMERS C. LONDON to £10,000
TRAINING IN CICS & DL/I. Major expansion within this well-known company has led to vacancies for programmers with 18 MONTHS' IBM PL/1 experience. This client is involved in major development projects, offers excellent training and career progression. They retain IBM mainframe running under MVS using CICS and DL/I.

PROG. TEAM LEADER CITY c. £13,000
Could you lead a team of EIGHT PROGRAMMERS? This international company based in the city seeks to recruit a PROGRAMMING TEAM LEADER to work on new development projects. Ideal applicants will have a minimum of three years' IBM COBOL and have some supervisory experience. Please now for further details.

PROGRAMMERS N. LONDON to £12,500
This well-respected company based in North London retains IBM mainframes using COBOL, CICS and DATABASE. All you require is a minimum of 18 months' IBM COBOL. TRAINING will be given in PL/1 and DATABASE. Company offers excellent starting salaries plus yearly reviews.

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For further information (e.g. the advanced SW technology/top hardware-selling non-defence application) call me, Vincent, Monday on 01-643 6441 (24 hours) or 01-643 6441 17 to 18 p.m.

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SALES BIT

Quality of Management - 71

Follow a formal selling structure

LAST week I briefly mentioned how I came across the example of an unnamed Japanese computer company that puts considerable stress on the importance of selling within a predetermined structure of sequential key events.

I was led to believe that its salespeople were instructed to adhere to the formal of the planned strategy without fail at all times. To emphasise the point, every salesperson is obliged to carry around a card upon which the 11 stages of its formal selling structure are clearly stated. They apparently call it "Profile of a Sale".

It may sound like they employ a bunch of well meaning androids rather than salespeople, but there appears to be considerable merit in the principle involved, if not the application.

Here are the elements concerned. It is essential to understand thoroughly the structure of a company, its products, its markets, its related companies, cross directorships, revenues, number of employees, and so on. Without such information it is as easy to waste time on a meaningless prospect as it is to miss a major business opportunity.

Stock Exchange Yearbook, Kompass and Dunn & Bradstreet, can help a lot. A copy of the most recent annual report is particularly useful. The best way to get one is to send a hand written letter from your home address.

Contacts must be established. If you don't make the right contacts from the outset, you may spend the rest of the selling cycle regretting it.

It is necessary to identify the key people within the decision-making process and create the appropriate strategy for making the most effective approach.

Remember it is always politically acceptable for the salesperson to move down the hierarchical pyramid, but not up it!

You must meet both decision maker and recommender. Identifying the key decision maker can be a difficult business; but even if committees and boards of directors are involved, there is always someone, somewhere, who actually wields the power to say yes or no, even if he does so by subvert means.

Even then, be prepared to be struck by lightning!

The proposal should merely confirm what has already been presented and agreed. It must be a document that exudes a professional image and enhances, rather than reduces, the credibility of the product, the company and the salesperson.

It should summarise, as well as detail, the facts that are being presented.

Above all, it should contain no surprises.

Furthermore, don't send a detailed proposal if a one-page letter will have the required effect.

Close quickly. I managed to win 20,000 words on the subject of closing in my book, *All About Selling*, so there is quite a bit I could say on the topic.

The primary discipline is to close early and often, and you can only do that if you listen intently throughout the sales dialogue. It is essential to recognise not only the right time to apply the final close, but also the appropriate approach for the situation at hand.

If you miss the right time to close it may not be your last chance but it could be your best one.

Finally, make sure you have followed the checklist. Well, have you?

Alan Williams

PUZZLE ANSWER

LET us use a "Yes-No" notation, with a capital letter for "digging", and an ordinary letter for "cleaning". The following relationships may then be eliminated from the reckoning by considering the five original statements: A, B, C, D, E, and F.

Once this has been done, it quickly becomes obvious that aBCDE is the only possible Operational Status.